MISSOURI DEPARTMENT OF
HEALTH &
SENIOR SERVICES

YOUTH RISK BEHAVIOR SURVEY

2021 Data Summary and Trends

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Acknowledgements

We extend our heartfelt gratitude to the high school students who took part in the 2021 Missouri Youth Risk Behavior Survey. We would also like to express our sincere appreciation to the administrators, teachers and staff of the chosen schools for their kind assistance. Without their cooperation, this valuable information would not have been possible.

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MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES

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Survey Overview

Survey Background

The Missouri Youth Risk Behavior Survey (YRBS) was administered by the Missouri Department of Elementary and Secondary Education (DESE) to high school students in the spring of odd-numbered years from 1995 through 2011 and then by DHSS from 2013 through 2021.

Purpose

DHSS is responsible for identifying and monitoring factors that may affect the health of our youth. Missouri uses the results from the YRBS to (1) monitor priority health risk behaviors among middle and high school students over time; (2) evaluate the impact of broad, national, state and local efforts to prevent risk behaviors; and (3) improve school health education policies and programs.

Sampling Design

Buildings containing grades 9-12 are included in the sampling frame for high schools. In the first-stage sampling, schools were randomly selected with probability proportional to the school enrollment size. In the second stage, systematic equal probability sampling with a random start was used to select classes from each school that participated in the survey. All classes in the selected schools were included in the second-stage sampling frame. All students in the selected classes were eligible to participate in the survey. School and student participation was anonymous and confidential. Passive parental permission was utilized unless the school district required active permission.

Survey Methodology

Both paper and pencil surveys were supported by the CDC, which provided funding for survey administration, and performed school sampling, data tabulation, weighting and primary analysis. DHSS staff administered the surveys by obtaining participation of randomly selected schools, securing class schedules and randomly selecting classes for participation, providing survey materials to participating schools, and collecting and processing completed surveys for shipping to the CDC.

Response Rates

Sufficient responses for weighting the data have been obtained each year the YRBS was conducted in Missouri, except in 2011. In 2021, 21 out of 43 (49%) of sampled high schools and 901 of 1,170 (76%) sampled high school students completed usable questionnaires. The overall response rate was 37%.

The weighted demographic characteristics of the sample are as follows:

Sex	
Female	48.8%
Male	51.2%

Note: 8 students did not answer the question "What is your sex?" Those students are excluded from analyses by sex.

Grade	
9th	26.5%
10th	25.2%
11th	24.3%
12th	23.8%
Other	0.2%

Race/Ethnicity	
Black*	15%
Hispanic/Latino	7.4%
White*	70.3%
All other races*	4.9%
Multiple races	2.4%

*Non-hispanic.

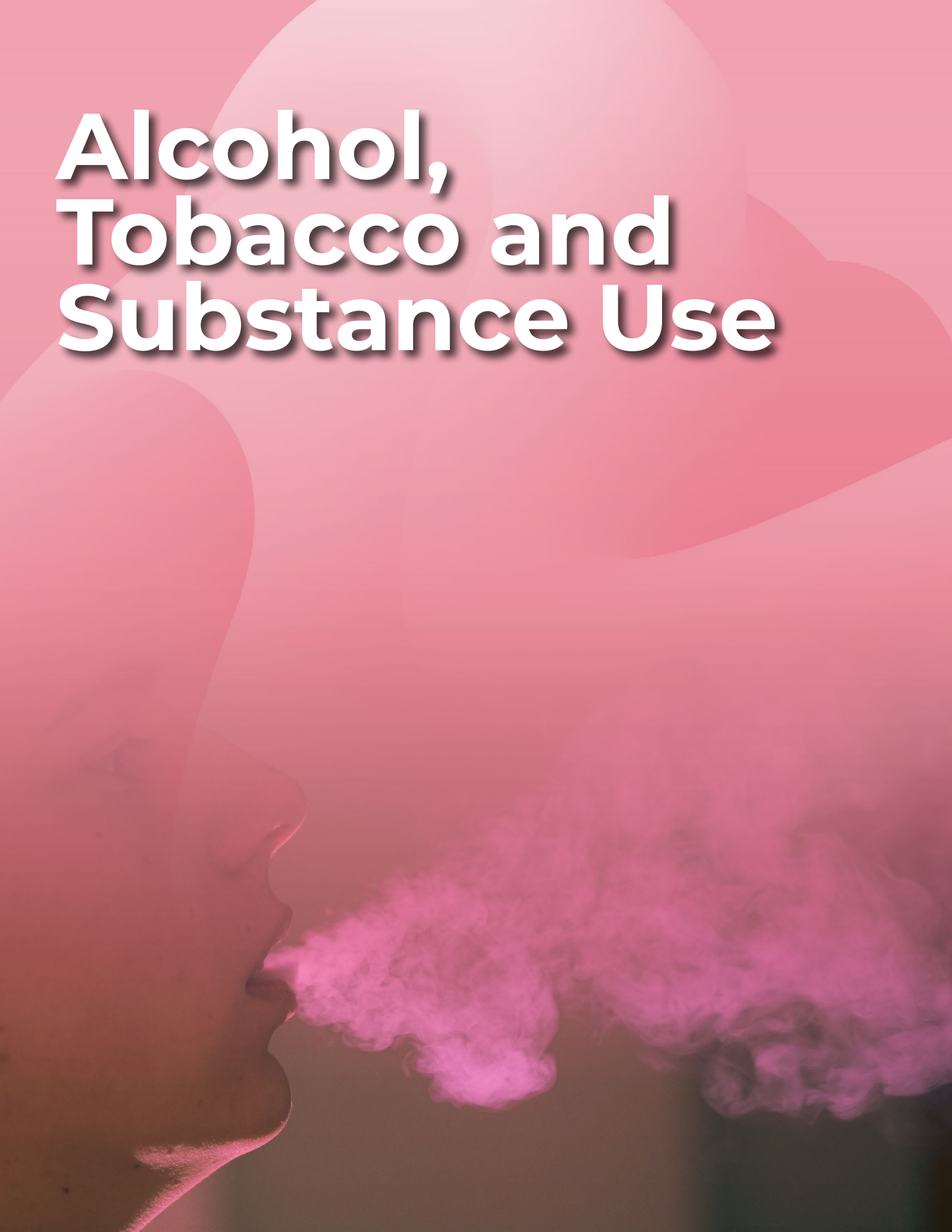
Introduction

The Missouri Department of Health and Senior Services, in collaboration with the Missouri Department of Elementary and Secondary Education and the U.S. Centers for Disease Control and Prevention (CDC), conducts biennial surveys of public middle and high school students to track progress in efforts to reduce health risk behaviors among youth. The Youth Risk Behavior Survey (YRBS), which is typically conducted in the spring of odd-numbered years, was postponed until the fall of 2021 due to COVID-19 disruptions earlier in the year. You can find details about the survey's methodology on page 4.

This report summarizes key findings from the 2021 high school YRBS including results from previous years that demonstrate changes over time. Previous years of YRBS data may be found on the CDC website at https://.cdc.gov/healthyyouth/data/yrbs/index.htm. Previous reports of Missouri YRBS data may be found at https://health.mo.gov/data/yrbss/index.php.

- Subgroup counts with fewer than 30 responses have been suppressed according to CDC guidance.
- Please note that some data slides have small percentages and graph axes are adjusted for legibility.
- The intent of this report is to be an overview of valuable information from which users can pull data and statistics for their work — for additional data requests or a deeper dive into a specific content area please reach out to the YRBS team at https://health.mo.gov/askus.php.
- For the complete wording of the YRBS questions, refer to the 2021 Questionnaire at https://health.mo.gov/data/yrbss/dataelements.php.

Alcohol, Tobacco and Substance Use



AT-A-GLANCE: Alcohol, Tobacco and Substance Use

Substance abuse is the harmful pattern of using substances such as tobacco, alcohol, illicit drugs and prescription drugs. One of the most highly abused substances among youth in the U.S. is alcohol. Underage drinking can increase the risk for unsafe sexual activity, violence, alcohol-related motor vehicle crashes, suicide and homicide, or other unintentional injuries.[1] In 2021, there were 20 fatalities and 49 people seriously injured due to traffic accidents involving at least one substance-impaired driver less than 21 years of age in Missouri.[2] Tobacco and marijuana are the next two most commonly used substances among young people. Smoking in youth increases the risk of nicotine dependency and struggling to quit.[3] Unfortunately, most adults who use tobacco products began during adolescence. The popularity of vaping among youth is cause for concern as it increases the risk of switching to cigarettes and exposes the lungs to various chemicals.[4]

Substance use variables included in the Missouri YRBS assessed current drinking habits, age at first drink and binge drinking. Students were asked if they had ever used, or were currently using, electronic vapor products or e-cigarettes. Misuse of prescription opioids and current marijuana use were considered as well.

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Currently drank alcohol in the past 30 days	35.6	34.5	32.0	27.9	24.3	▼
Had their first drink of alcohol before 13 years old	19.5	17.3	18.4	16.0	14.9	▼
Currently binge-drinking	-	-	17.0	15.2	14.1	◆
Currently smoked cigarettes	14.9	11.0	9.2	6.5	5.1	▼
Ever used an electronic vapor product	-	40.6	39.9	49.6	39.9	◆
Currently used an electronic vapor product	-	22.0	10.9	20.7	19.3	◆
Currently used an electronic vapor product frequently	-	2.8	2.7	9.4	9.5	●
Currently smoked cigarettes or used electronic vapor products	-	24.3	14.6	22.2	20.4	◆
Currently used marijuana	20.5	16.3	19.9	16.3	16.7	◆
Ever misused prescription opioids	-	-	13.7	22.7	16.8	◆

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

● In wrong direction
◆ No change
▼ In right direction

SUMMARY OF RESULTS: Alcohol, Tobacco and Substance Use

Alcohol use and current cigarette use decreased from 2013 to 2021. However, the increase in high school students who were currently using an electronic vapor product frequently was concerning. The percentage of students who currently used marijuana did not change from 2013 to 2021 and the percentage who had ever misused prescription opioids did not change from 2017 to 2021.

In 2021

40% of high school students said they had ever tried an electronic vapor product. One out of five students currently smoked cigarettes or used electronic vapor products at least once in the 30 days before the survey. Students who identified as lesbian, gay or bisexual were more likely to currently use marijuana than heterosexual students (26% vs. 14.8%). Hispanic students were more than twice as likely to have had their first drink of alcohol, other than a few sips, before the age of 13.

Trends

Fewer male students were currently using an electronic vapor product, but there had been an increase in female students using an electronic vapor product. More high school students were currently using an electronic vapor product frequently regardless of sex or race and ethnicity. From 2017 to 2021, there was an increase in the percentage of females who were misusing prescription opioids.

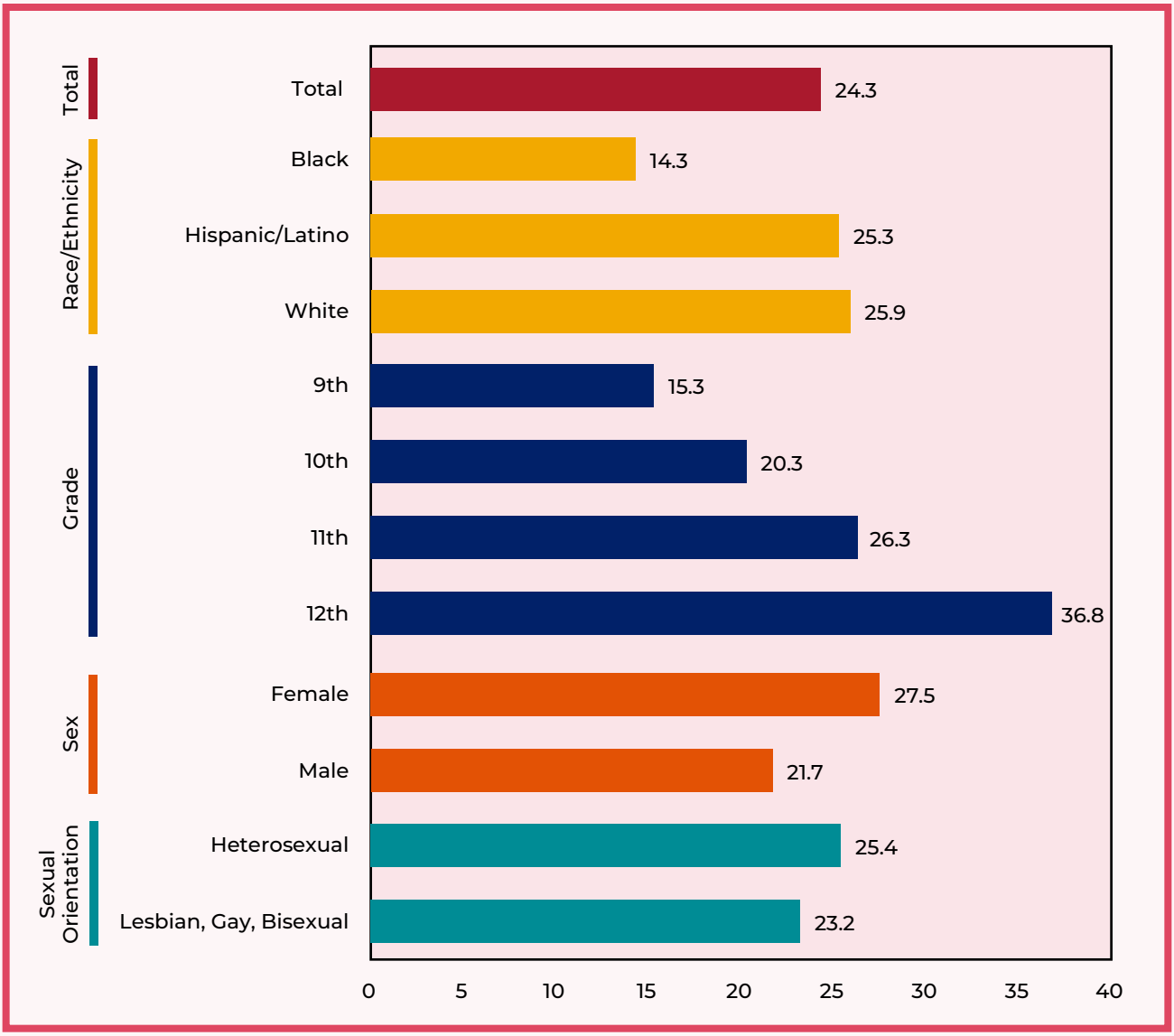
National Comparison

More Missouri high school students had ever used an electronic vapor product than the national average (40% vs. 36%), and more students had misused prescription opioids (17% vs. 12%). For current alcohol, cigarette, electronic vapor product or marijuana use, Missouri had comparable results to the rest of the nation.

Currently Drank Alcohol

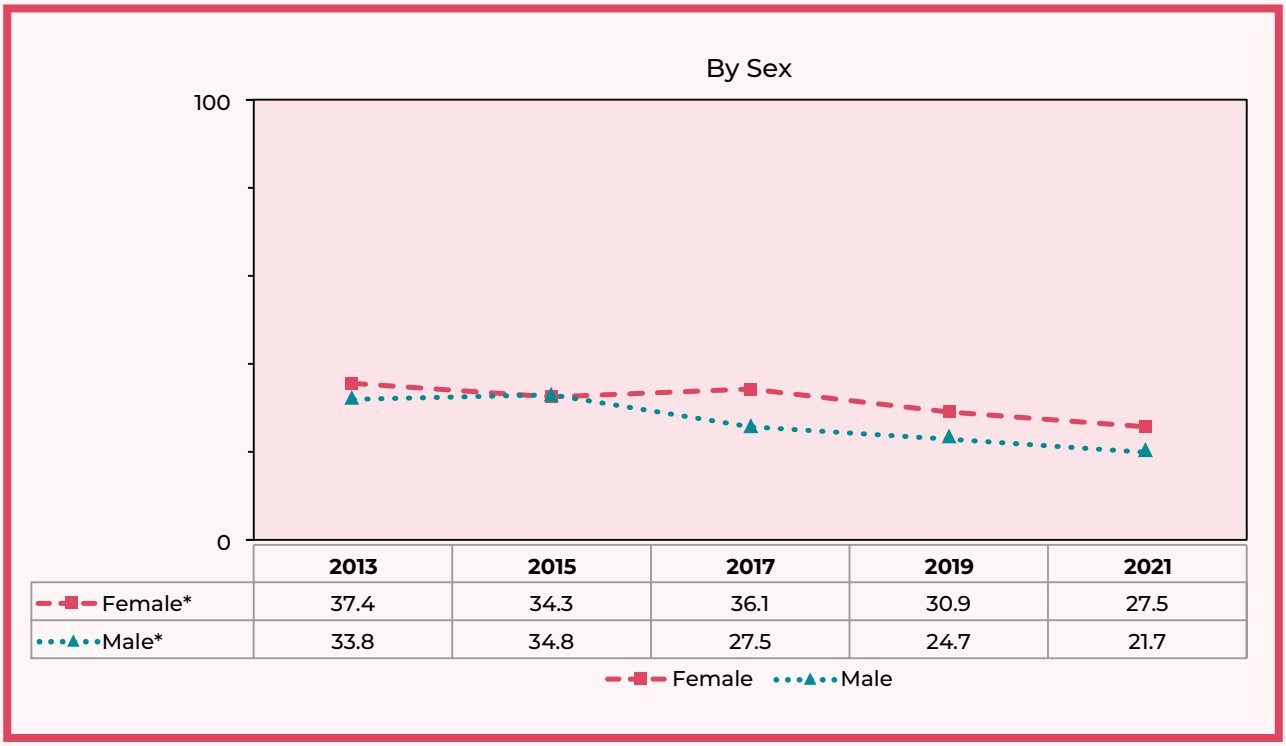
Students in 12th grade were more likely to currently drink alcohol than students in 9th, 10th and 11th grade. White students had a higher prevalence than Black students.

Percentage of High School Students who **Currently Drank Alcohol,*** by Demographic Characteristics,† Missouri, YRBS, 2021



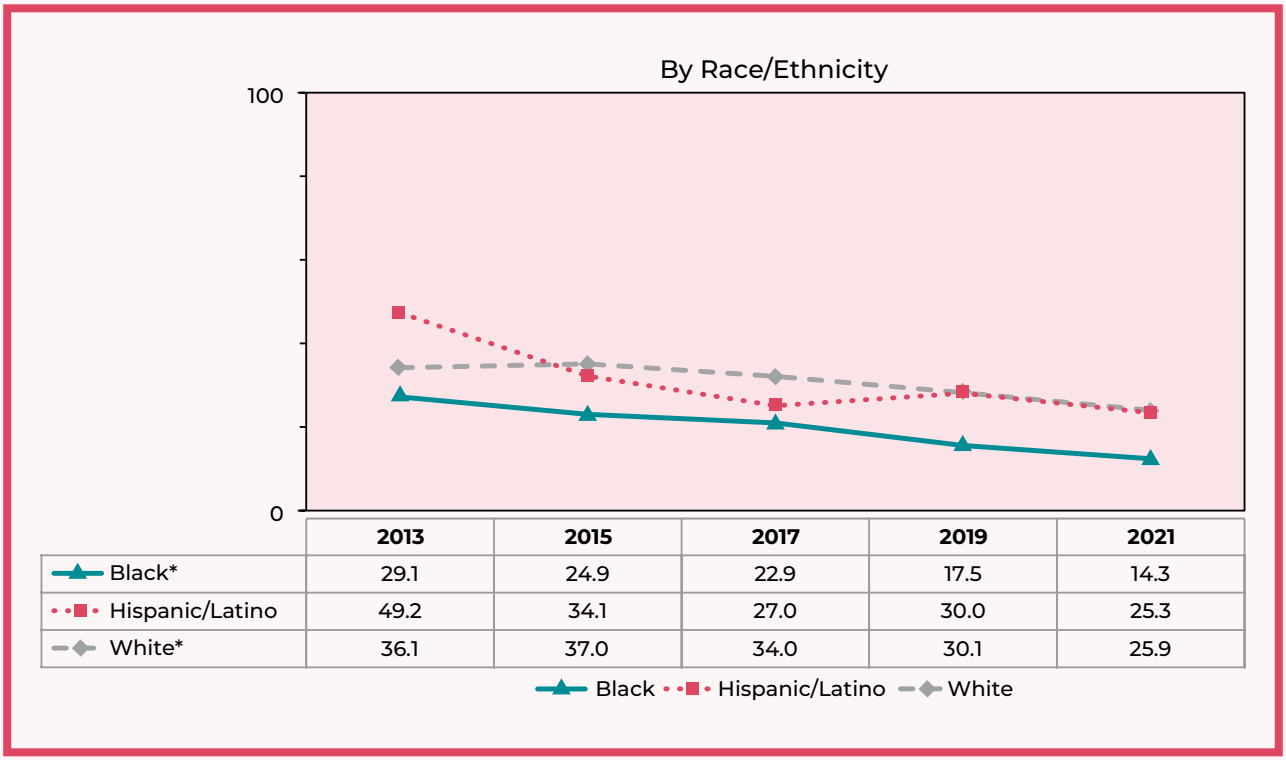
*At least one drink of alcohol on at least one occasion in the 30 days before the survey.
†11th > 9th, 12th > 9th, 12th > 10th, 12th > 11th; W > B (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Currently Drank Alcohol** in the Past Month, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	37.4	34.3	36.1	30.9	27.5
Male*	33.8	34.8	27.5	24.7	21.7

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



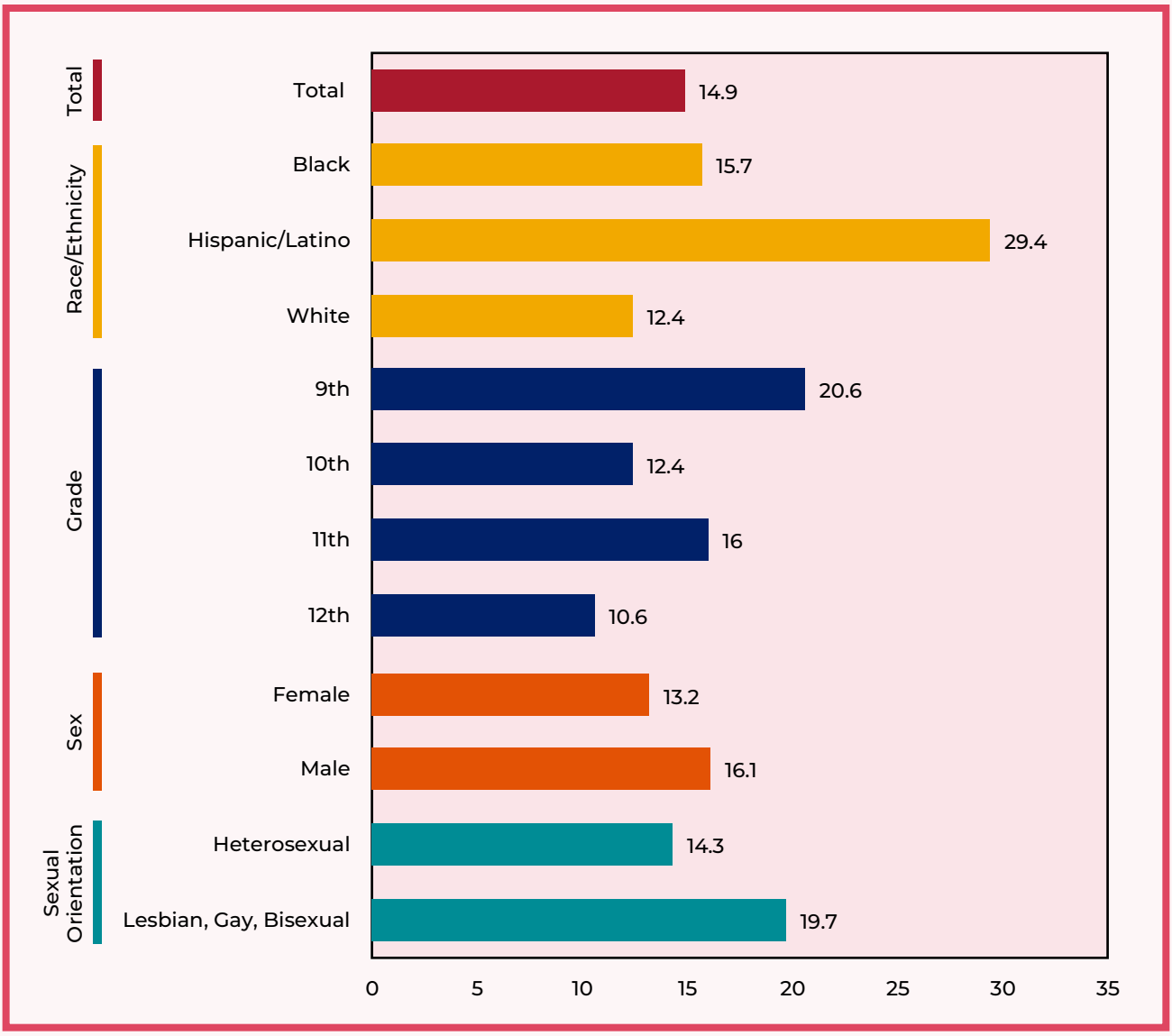
	2013	2015	2017	2019	2021
Black*	29.1	24.9	22.9	17.5	14.3
Hispanic/Latino	49.2	34.1	27.0	30.0	25.3
White*	36.1	37.0	34.0	30.1	25.9

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

First Drink of Alcohol Before Age 13

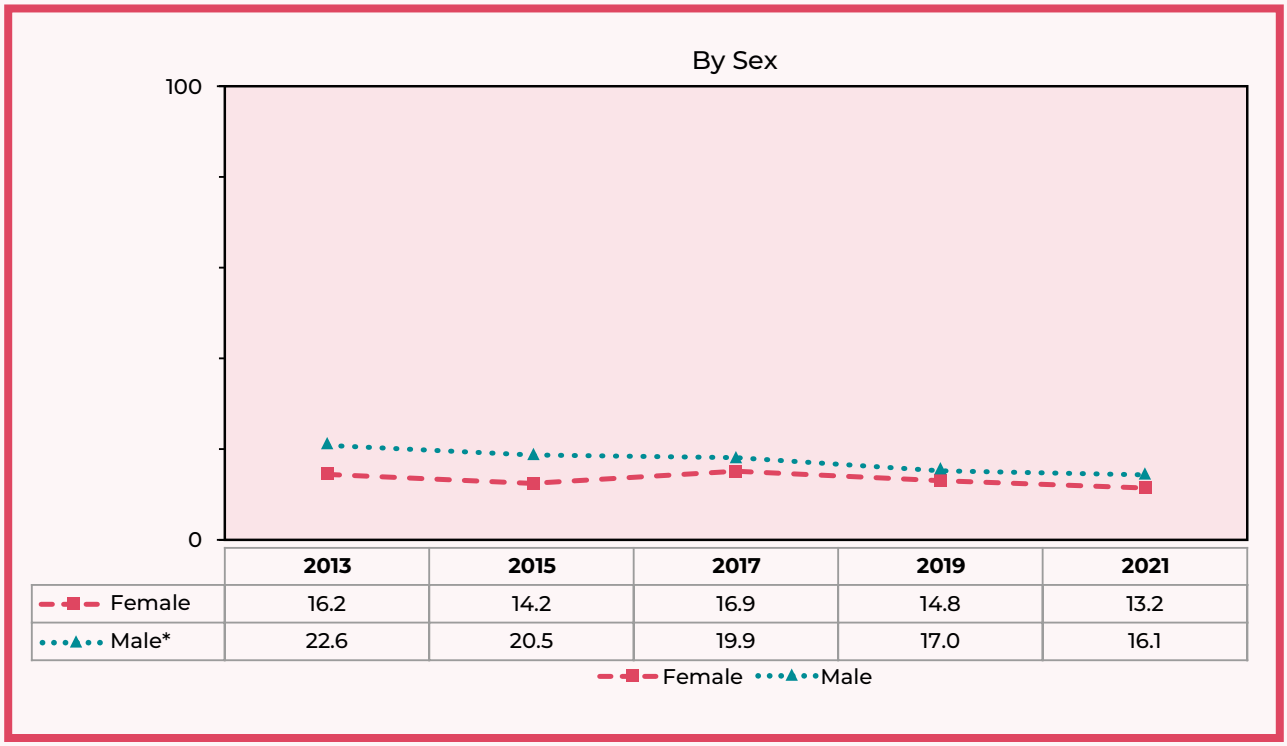
Hispanic students were more likely to have tried their first drink of alcohol before the age of 13 than Black or white students.

Percentage of High School Students who Had Their First Drink of Alcohol* Before Age 13, by Demographic Characteristics,† Missouri, YRBS, 2021



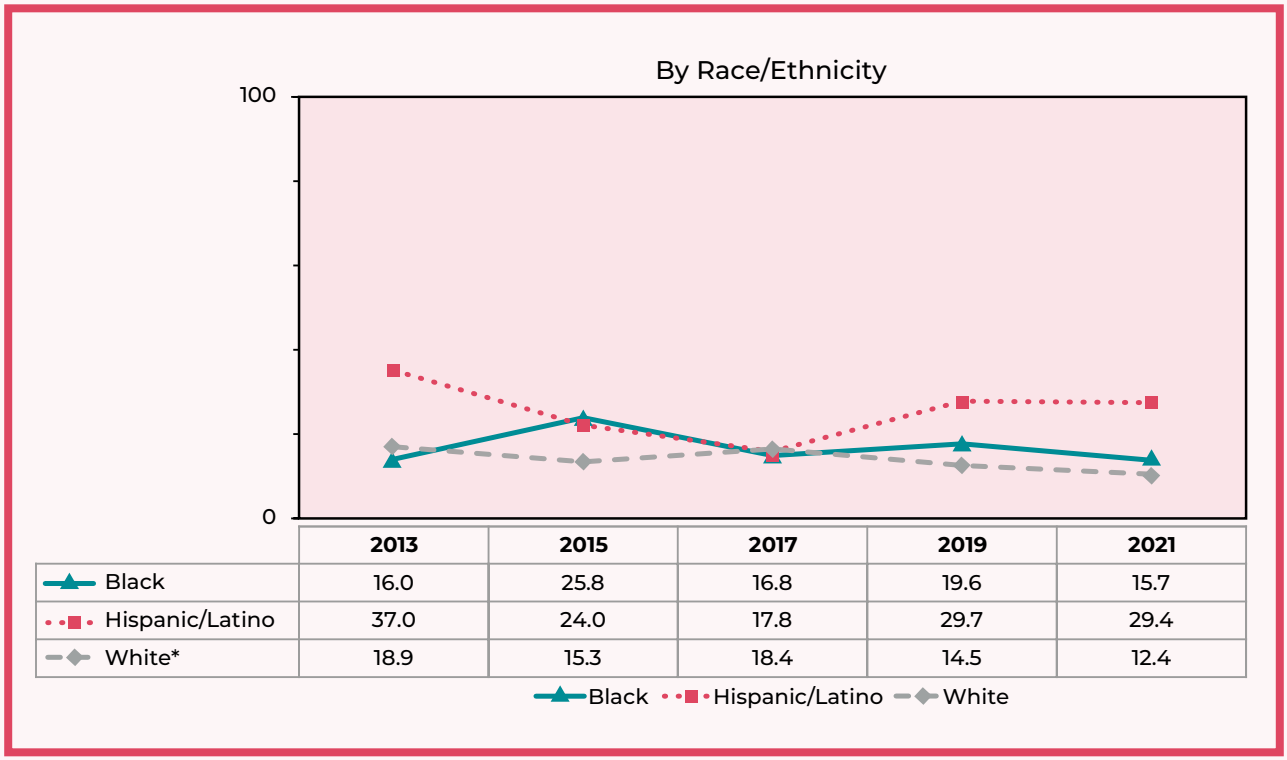
*Other than a few sips.
†H > B, H > W (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Had Their First Drink Alcohol Before Age 13,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	16.2	14.2	16.9	14.8	13.2
Male*	22.6	20.5	19.9	17.0	16.1

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



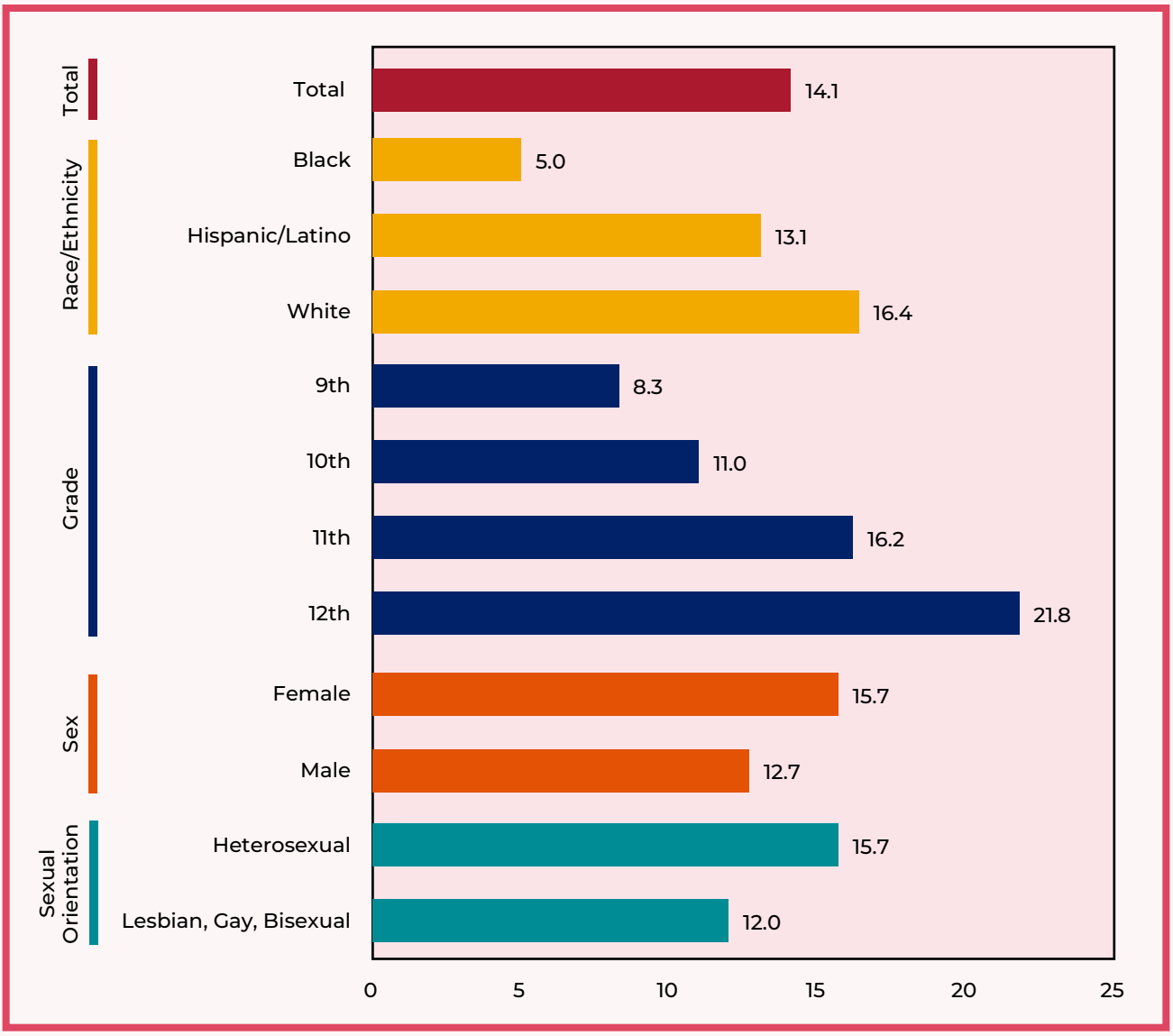
	2013	2015	2017	2019	2021
Black	16.0	25.8	16.8	19.6	15.7
Hispanic/Latino	37.0	24.0	17.8	29.7	29.4
White*	18.9	15.3	18.4	14.5	12.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Were Currently Binge Drinking

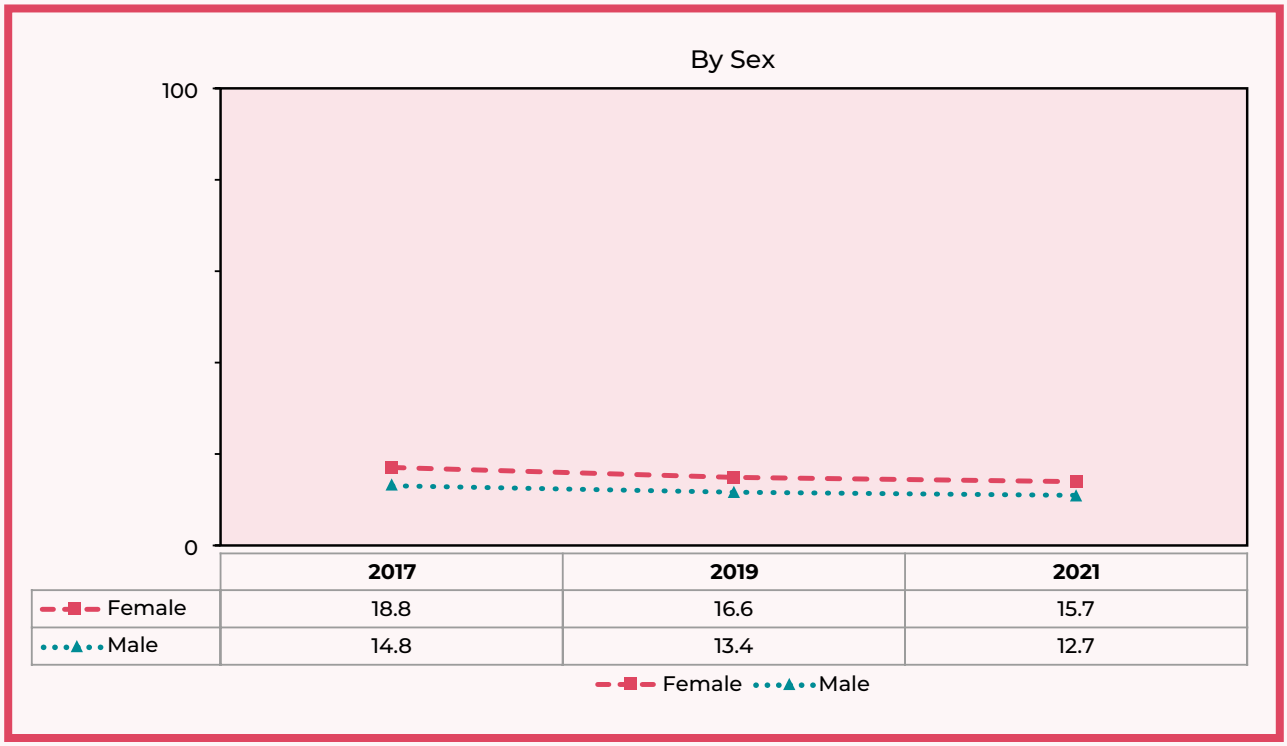
Students in 11th and 12th grade were more likely to currently binge drink than students in 9th grade. White students were more likely to currently binge drink than Black students.

Percentage of High School Students who **Were Currently Binge Drinking*** in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021

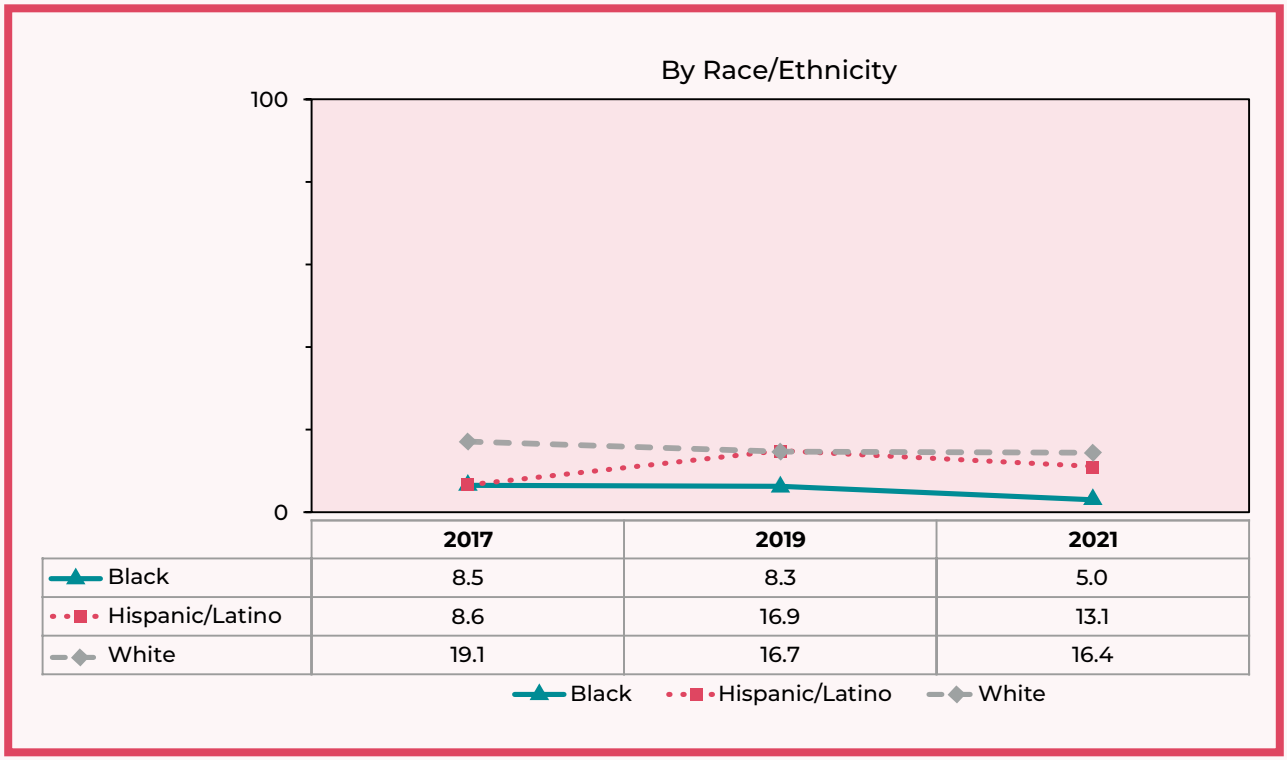


*Four or more drinks of alcohol in a row if female or five or more drinks in a row if male, within a couple of hours, at least once in the 30 days before the survey.
†11th > 9th, 12th > 9th, 12th > 10th; W > B (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Were Currently Binge Drinking,** Missouri, YRBS, 2017-2021



	2017	2019	2021
Female	18.8	16.6	15.7
Male	14.8	13.4	12.7

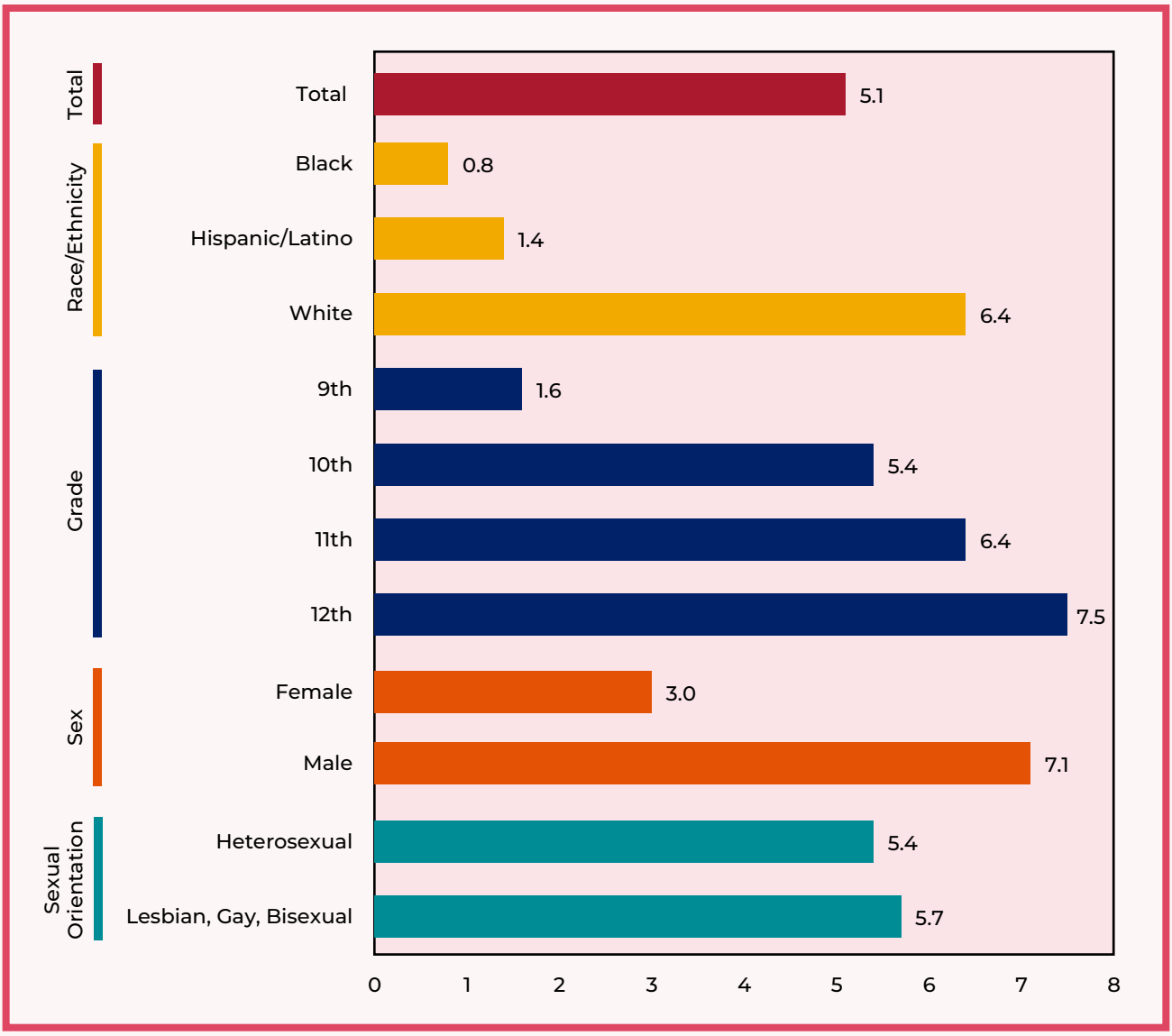


	2017	2019	2021
Black	8.5	8.3	5.0
Hispanic/Latino	8.6	16.9	13.1
White	19.1	16.7	16.4

Currently Smoked Cigarettes

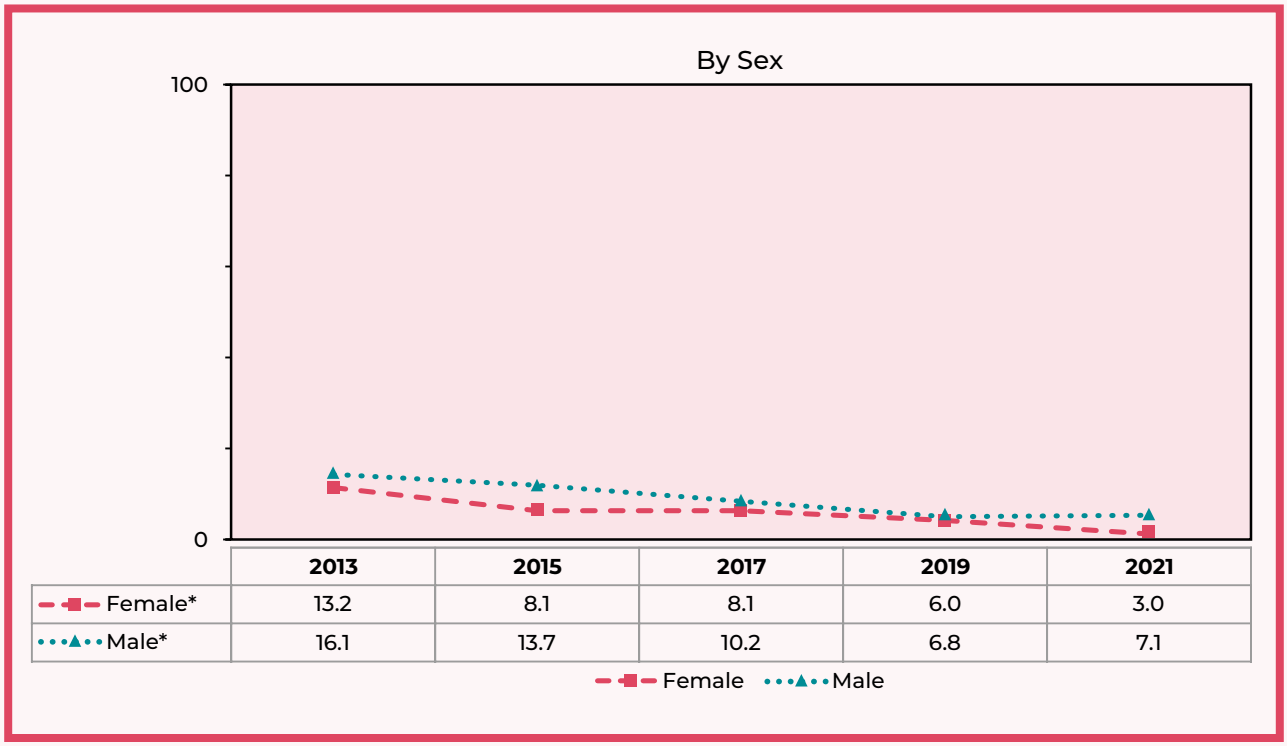
Male students were more likely to currently smoke cigarettes than female students. White students had a higher prevalence than Black or Hispanic students.

Percentage of High School Students who **Currently Smoked Cigarettes*** in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021



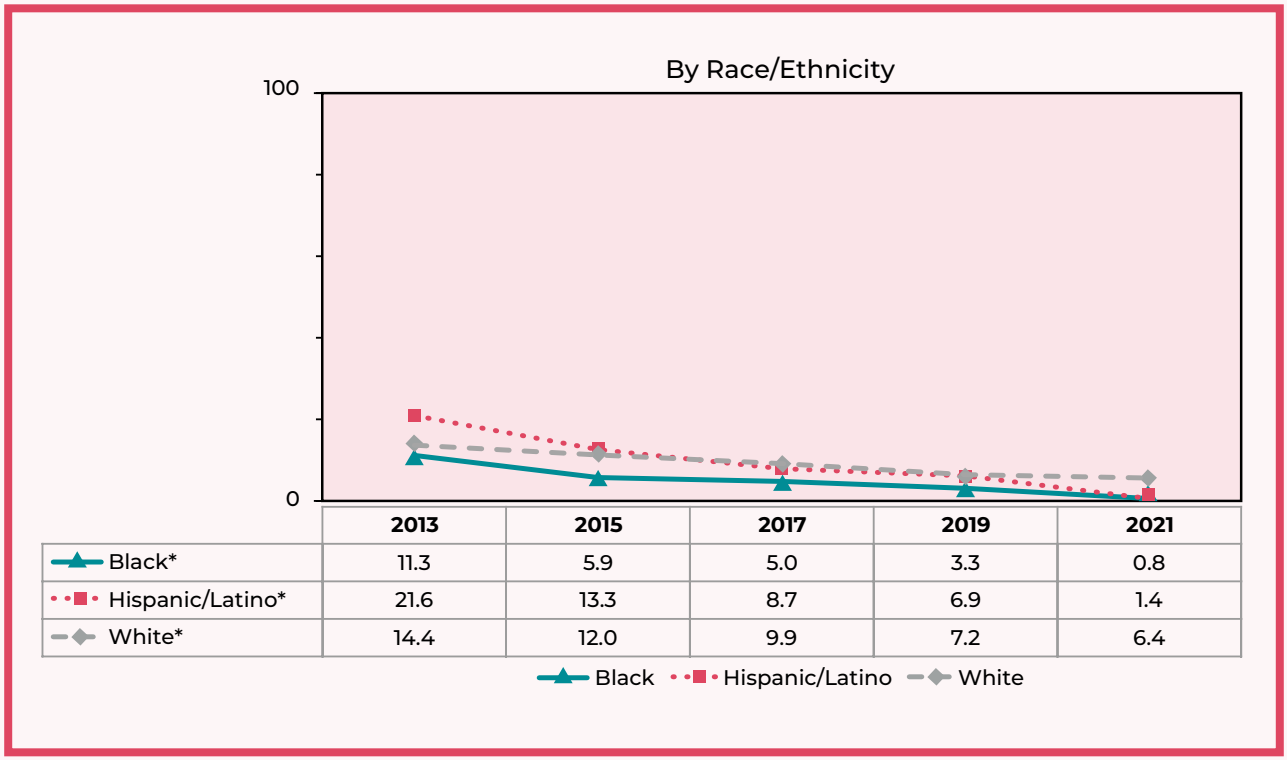
*At least once in the 30 days before the survey.
†M > F; 10th > 9th, 11th > 9th; W > B, W > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Currently Smoked Cigarettes** in the Past Month, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	13.2	8.1	8.1	6.0	3.0
Male*	16.1	13.7	10.2	6.8	7.1

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



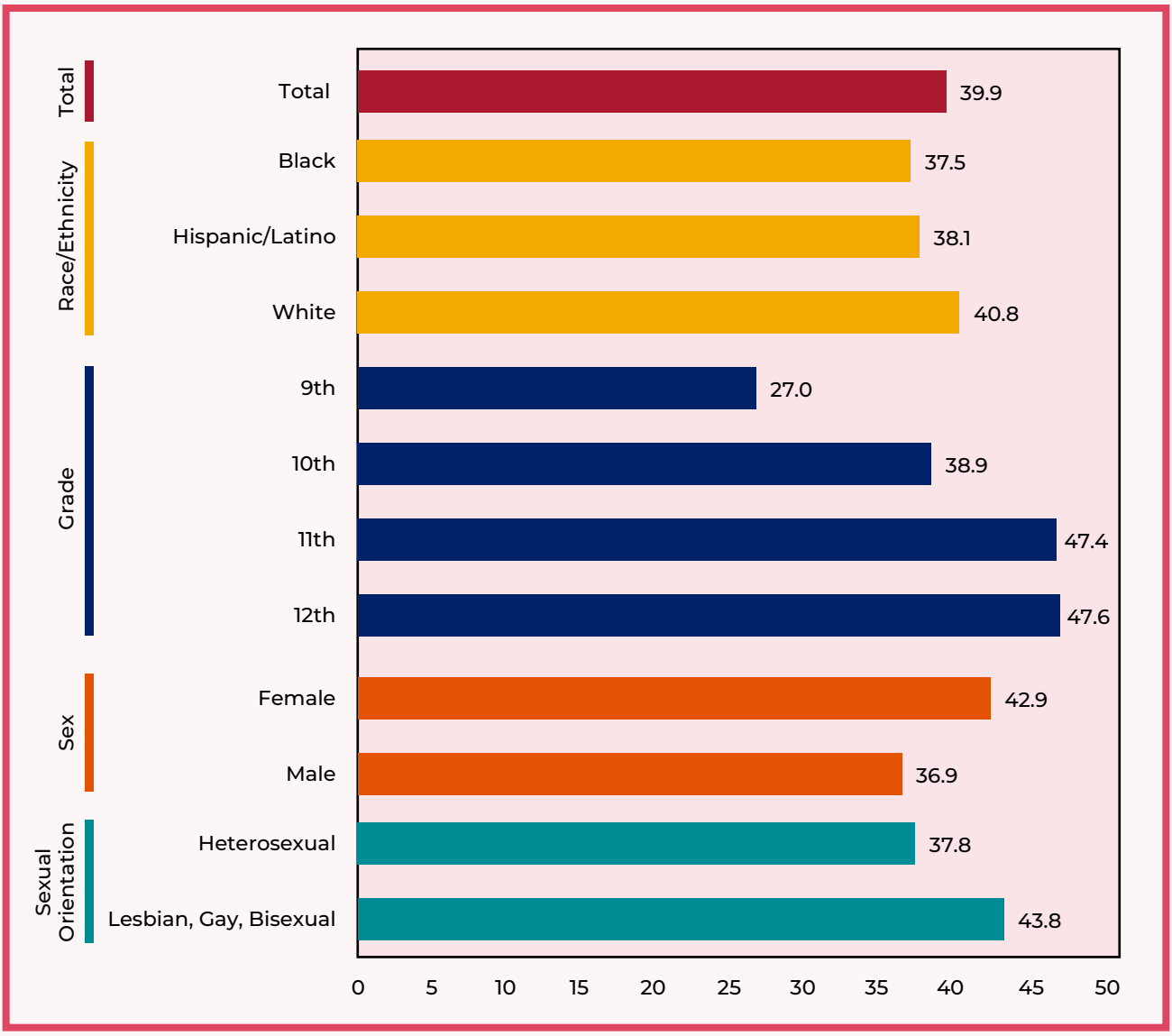
	2013	2015	2017	2019	2021
Black*	11.3	5.9	5.0	3.3	0.8
Hispanic/Latino*	21.6	13.3	8.7	6.9	1.4
White*	14.4	12.0	9.9	7.2	6.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Ever Used an Electronic Vapor Product (EVP)

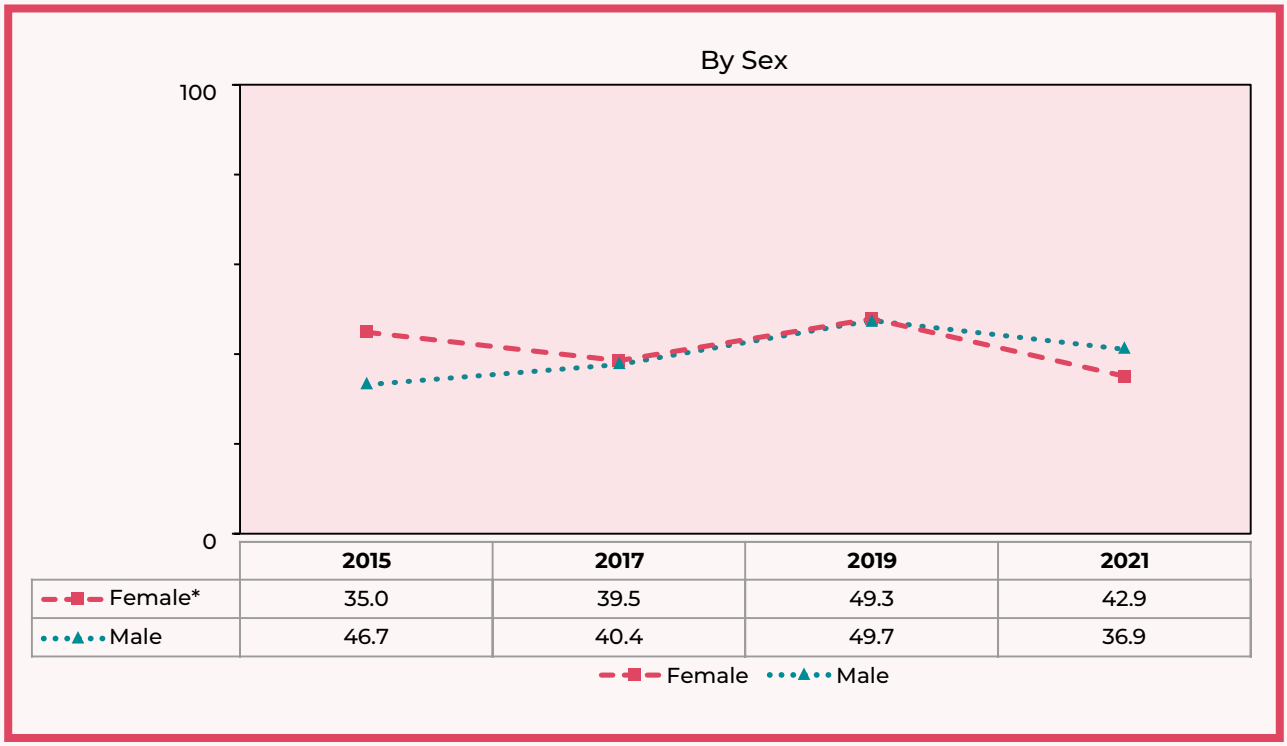
Students in 10th, 11th and 12th grade were more likely to have ever used an EVP than students in 9th grade.

Percentage of High School Students who **Had Ever Used an EVP,*** by Demographic Characteristics,† Missouri, YRBS, 2021



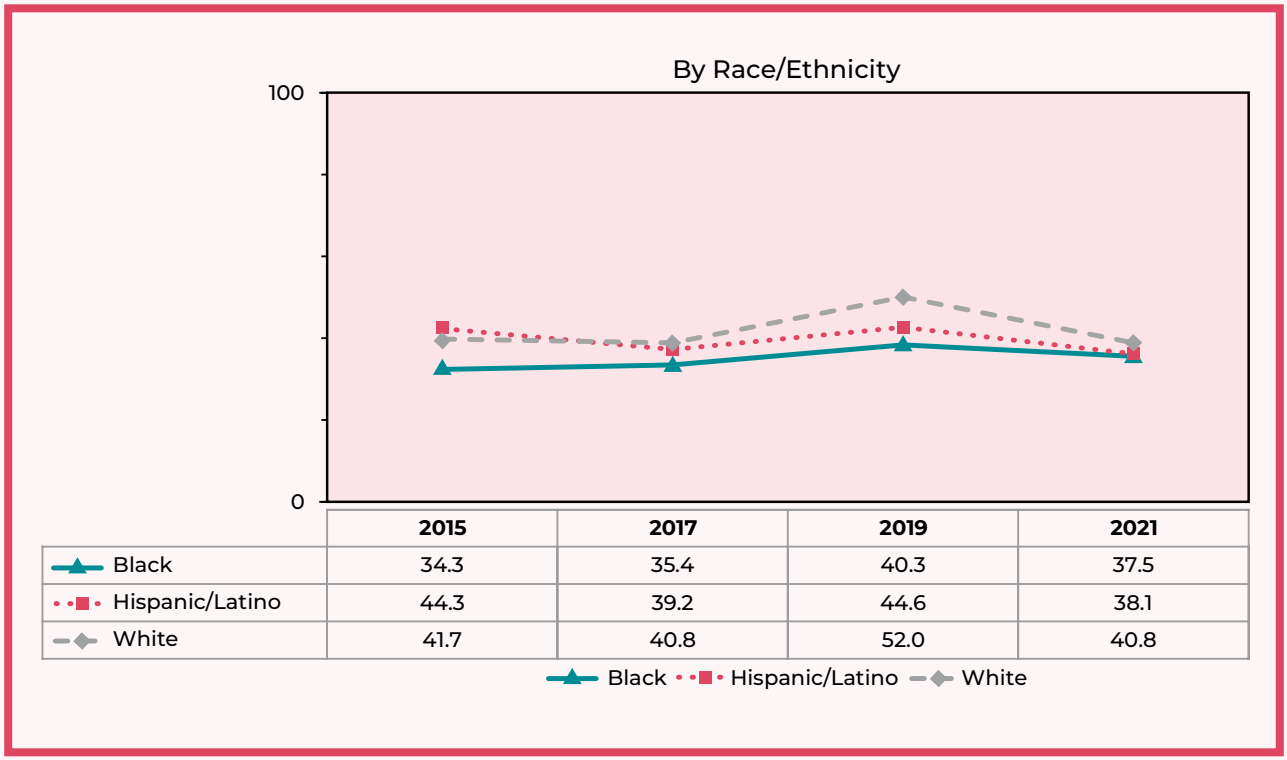
*Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens and mods.
†10th > 9th, 11th > 9th, 12th > 9th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Had Ever Used an EVP,** Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female*	35.0	39.5	49.3	42.9
Male	46.7	40.4	49.7	36.9

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

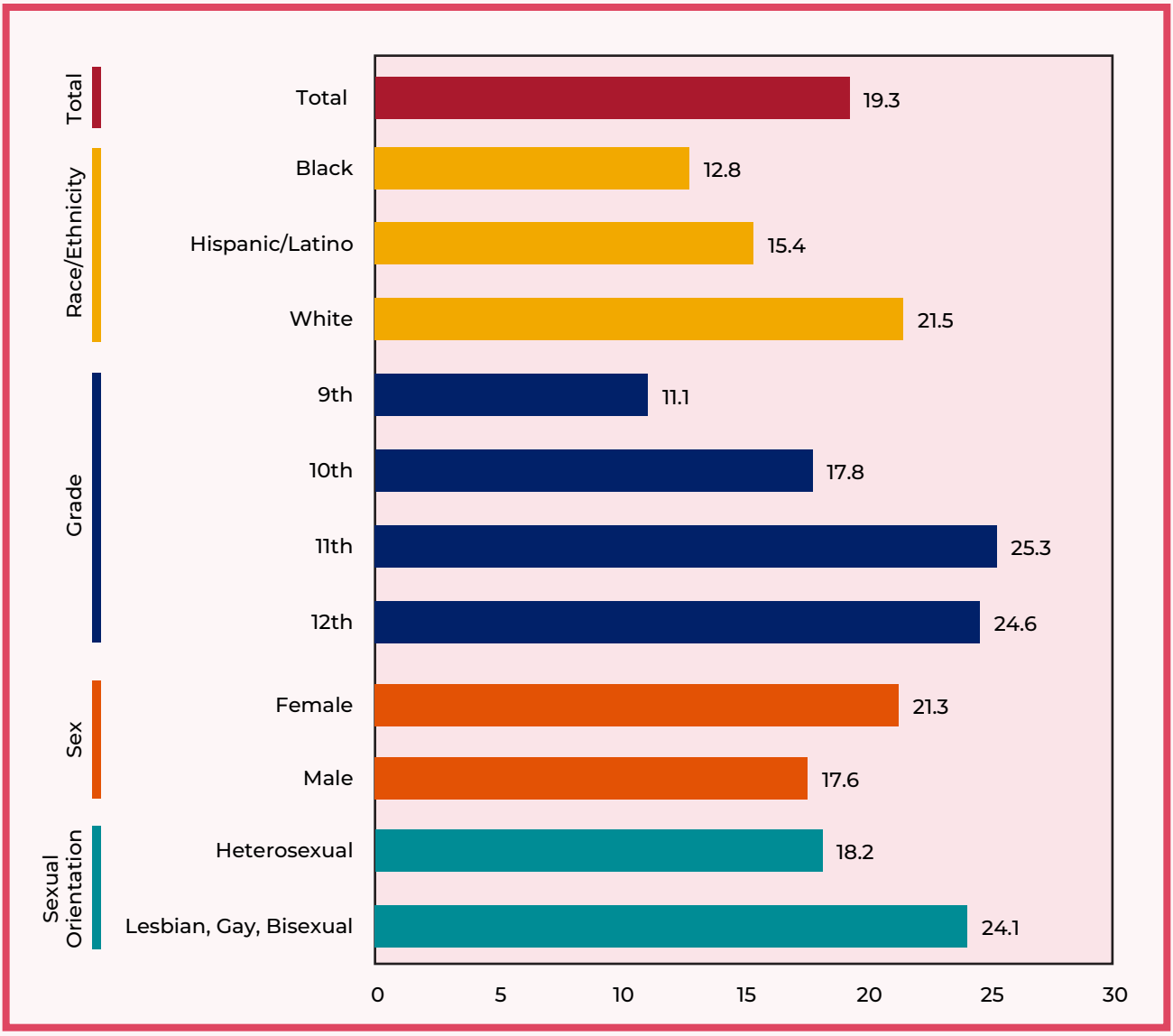


	2015	2017	2019	2021
Black	34.3	35.4	40.3	37.5
Hispanic/Latino	44.3	39.2	44.6	38.1
White	41.7	40.8	52.0	40.8

Currently Used an Electronic Vapor Product (EVP)

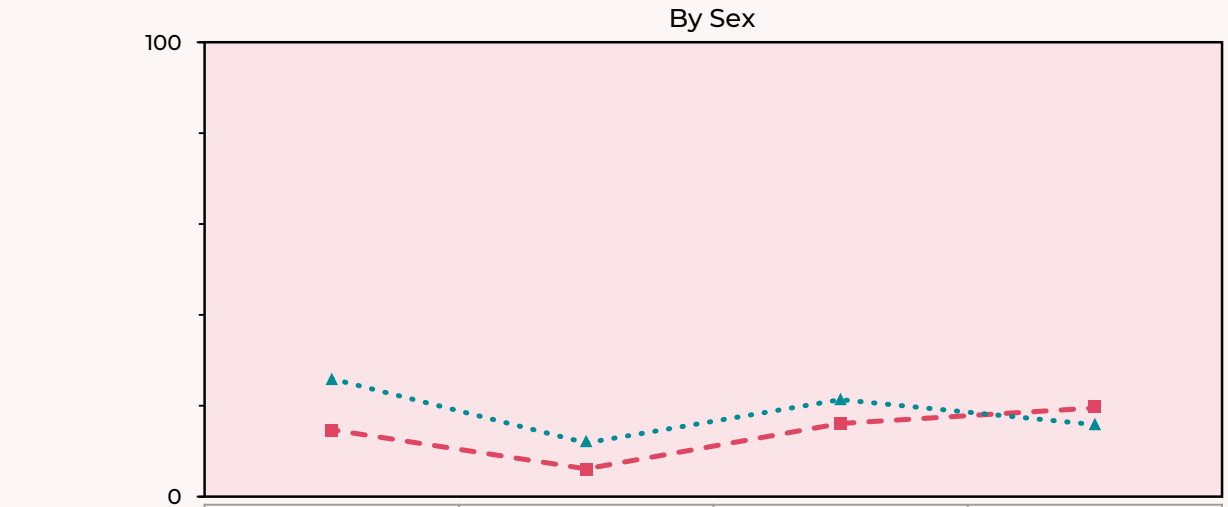
Students in 11th and 12th grade were more likely to currently use an EVP than students in 9th grade.

Percentage of High School Students who **Currently Used an EVP*** in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021



*Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens and mods (such as JUUL, SMOK, Suorin, Vuse and blu) at least once in the 30 days before the survey.
†11th > 9th, 12th > 9th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

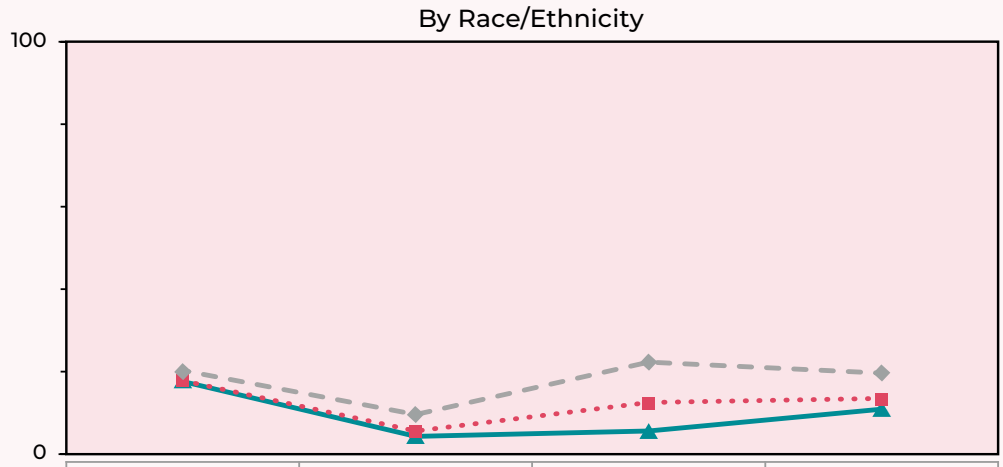
Trends in the Percentage of High School Students who **Currently Used an EVP** in the Past Month, Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female*	16.5	7.9	17.9	21.3
Male†	27.7	13.6	23.1	17.6

Female Male

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
†Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



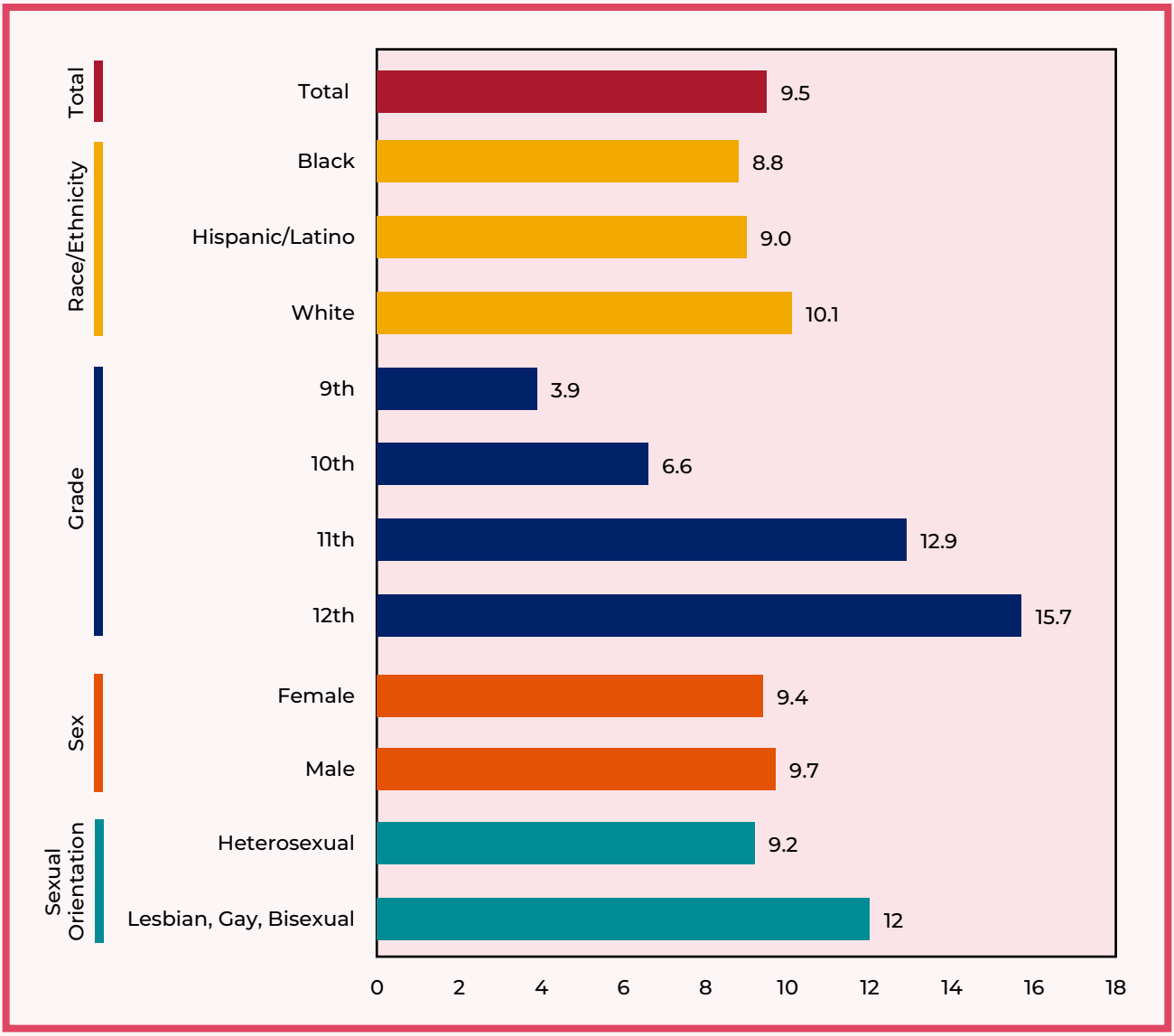
	2015	2017	2019	2021
Black	19.5	6.2	7.5	12.8
Hispanic/Latino	19.7	7.5	14.4	15.4
White	22.2	11.5	24.2	21.5

Black Hispanic/Latino White

Currently Used an Electronic Vapor Product (EVP) Frequently

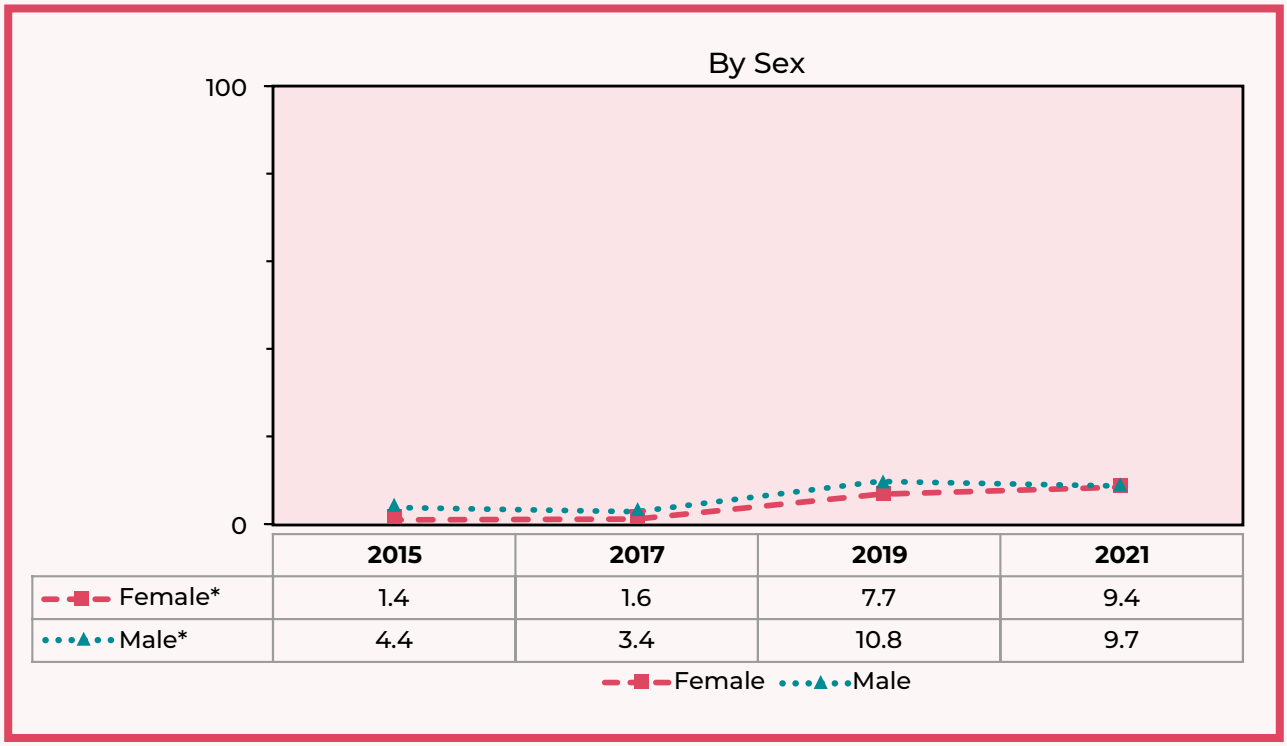
Students in 11th grade were more likely to currently use an EVP frequently than students in 9th and 10th grade.

Percentage of High School Students who Currently Used an EVP Frequently* in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021



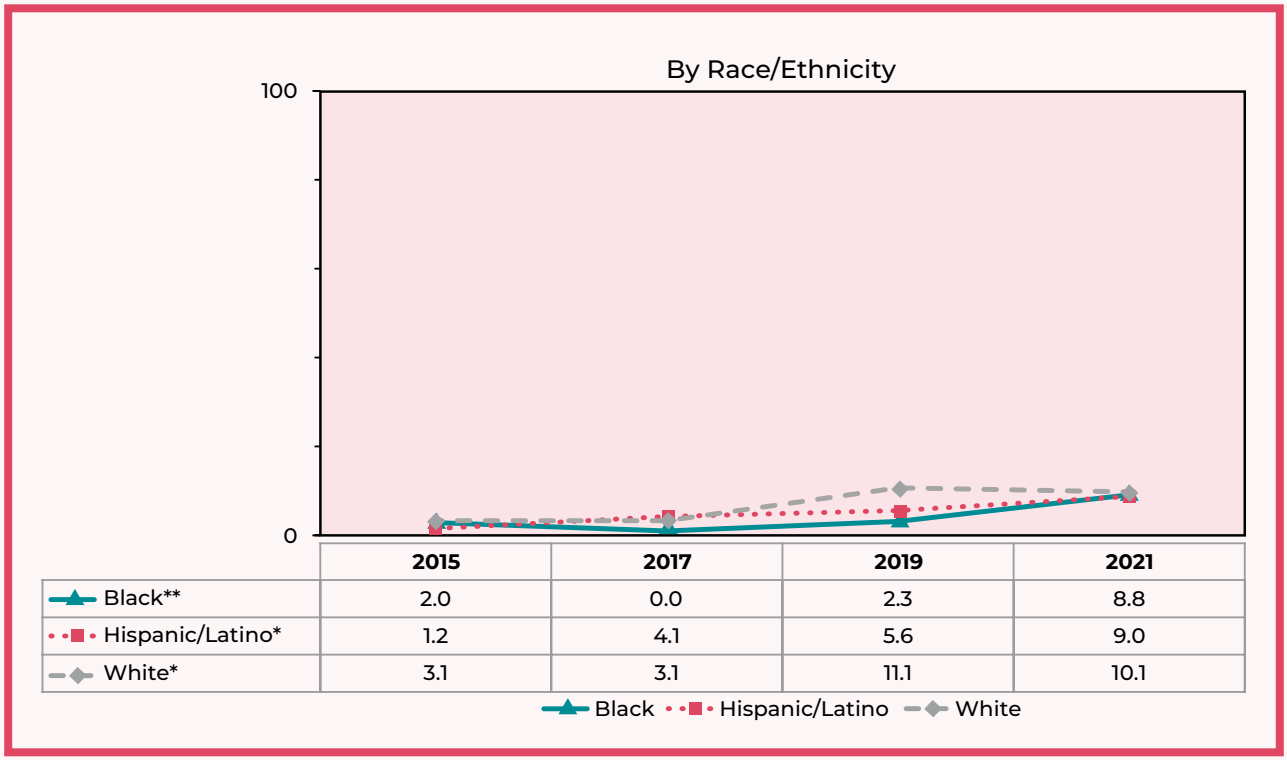
*Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens and mods (such as JUUL, SMOK, Suorin, Vuse and blu) at least 20 out of the 30 days before the survey.
†11th > 9th, 11th > 10th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Currently Used an EVP Frequently** in the Past Month, Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female*	1.4	1.6	7.7	9.4
Male*	4.4	3.4	10.8	9.7

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



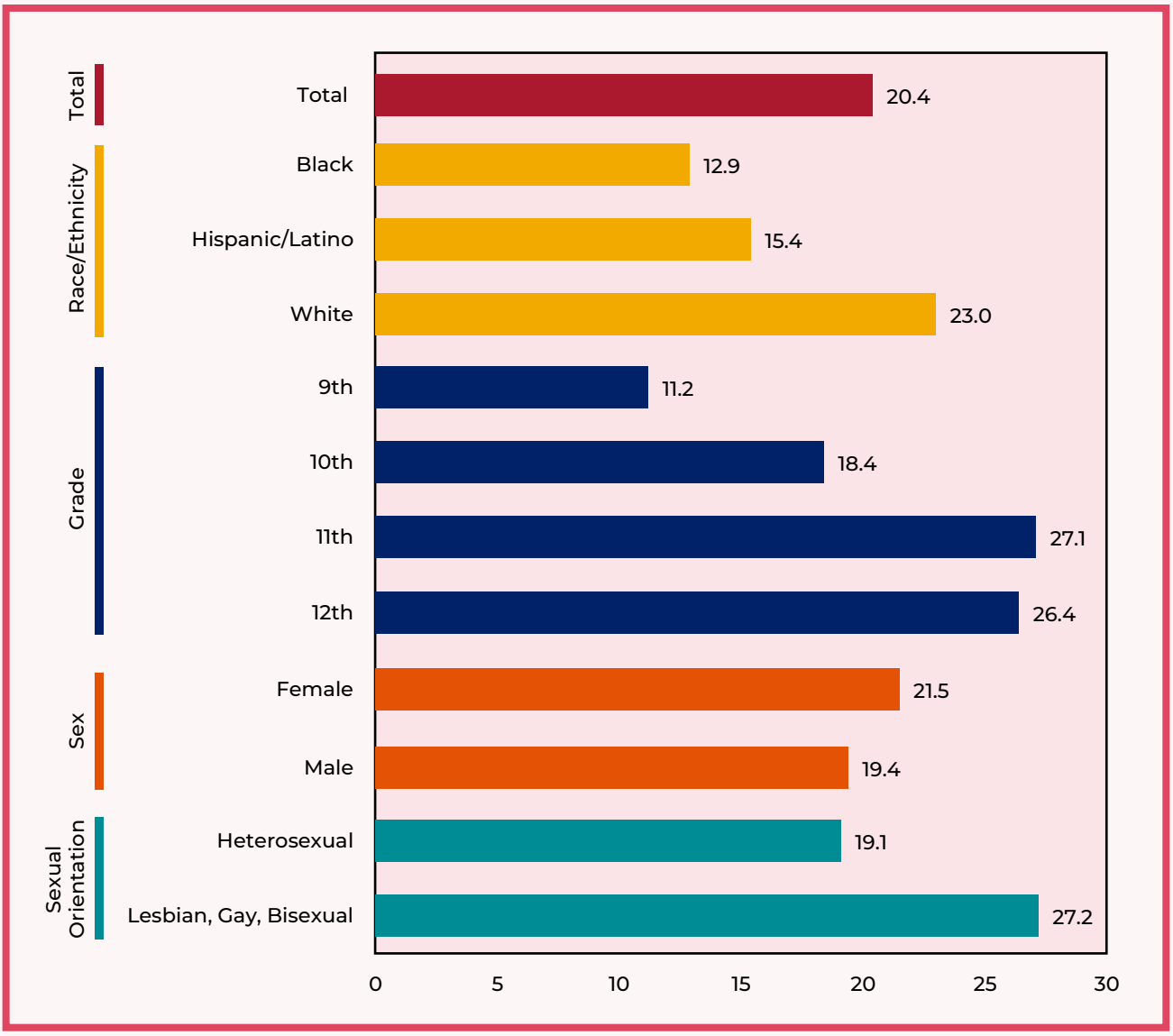
	2015	2017	2019	2021
Black**	2.0	0.0	2.3	8.8
Hispanic/Latino*	1.2	4.1	5.6	9.0
White*	3.1	3.1	11.1	10.1

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.
**Linear change unavailable.

Currently Smoked Cigarettes or Used Electronic Vapor Products (EVPs)

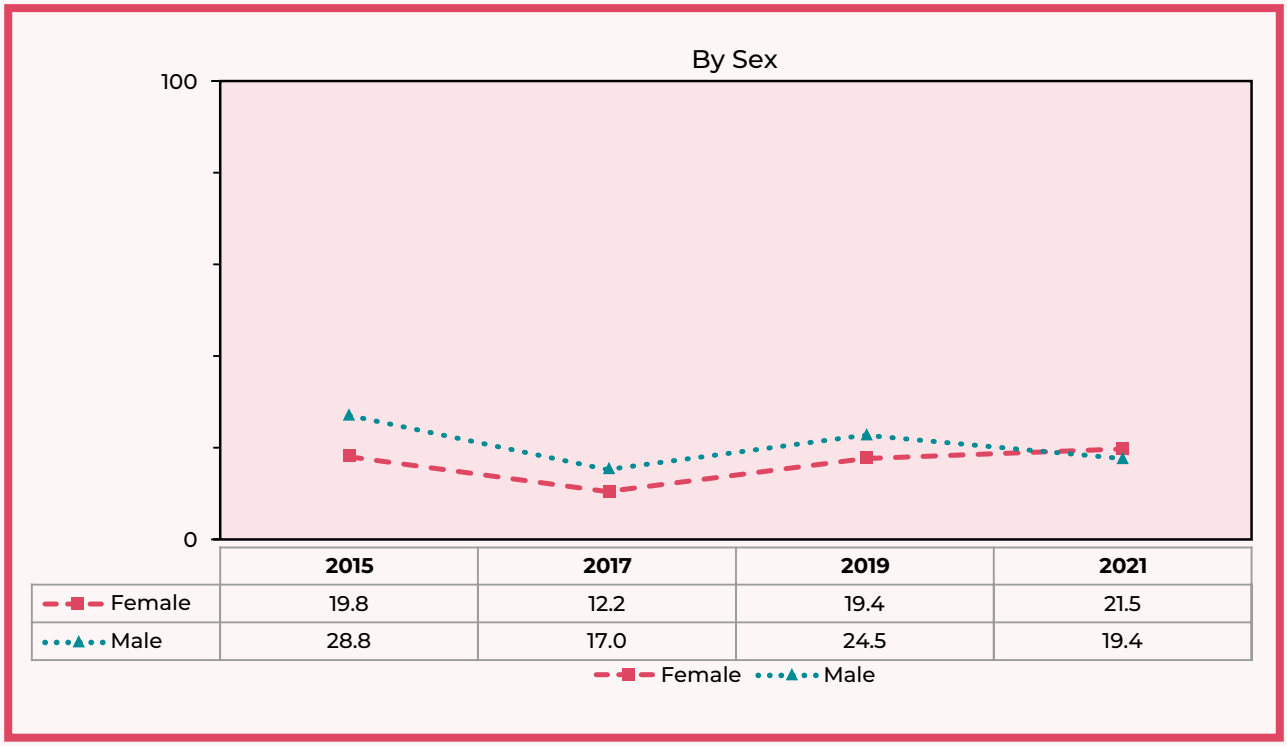
Students in 10th, 11th and 12th grade were more likely to currently smoke cigarettes or use EVPs than students in 9th grade. White students were more likely to currently smoke cigarettes or use EVPs than Hispanic students.

Percentage of High School Students who Currently Smoked Cigarettes or Used EVPs* in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021

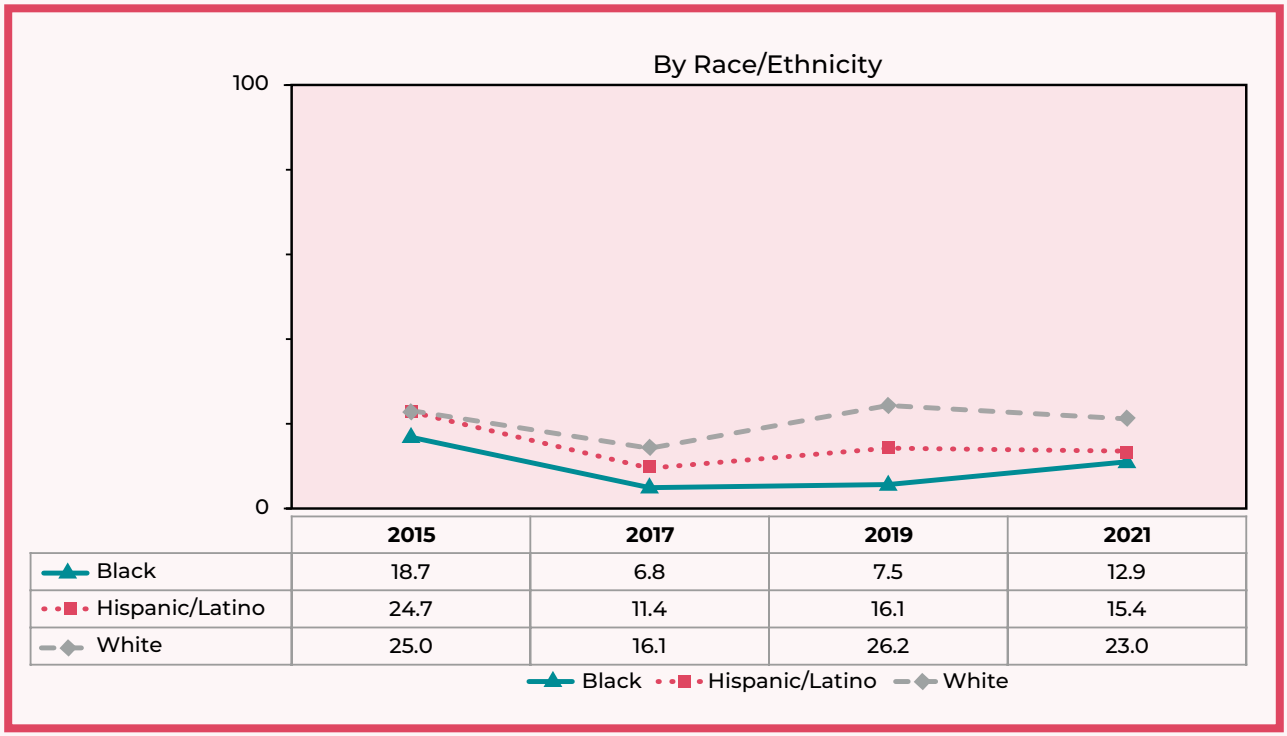


*At least once in the 30 days before the survey.
†10th > 9th, 11th > 9th, 12th > 9th; W > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Currently Smoked Cigarettes or Used EVPs Frequently** in the Past Month, Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female	19.8	12.2	19.4	21.5
Male	28.8	17.0	24.5	19.4

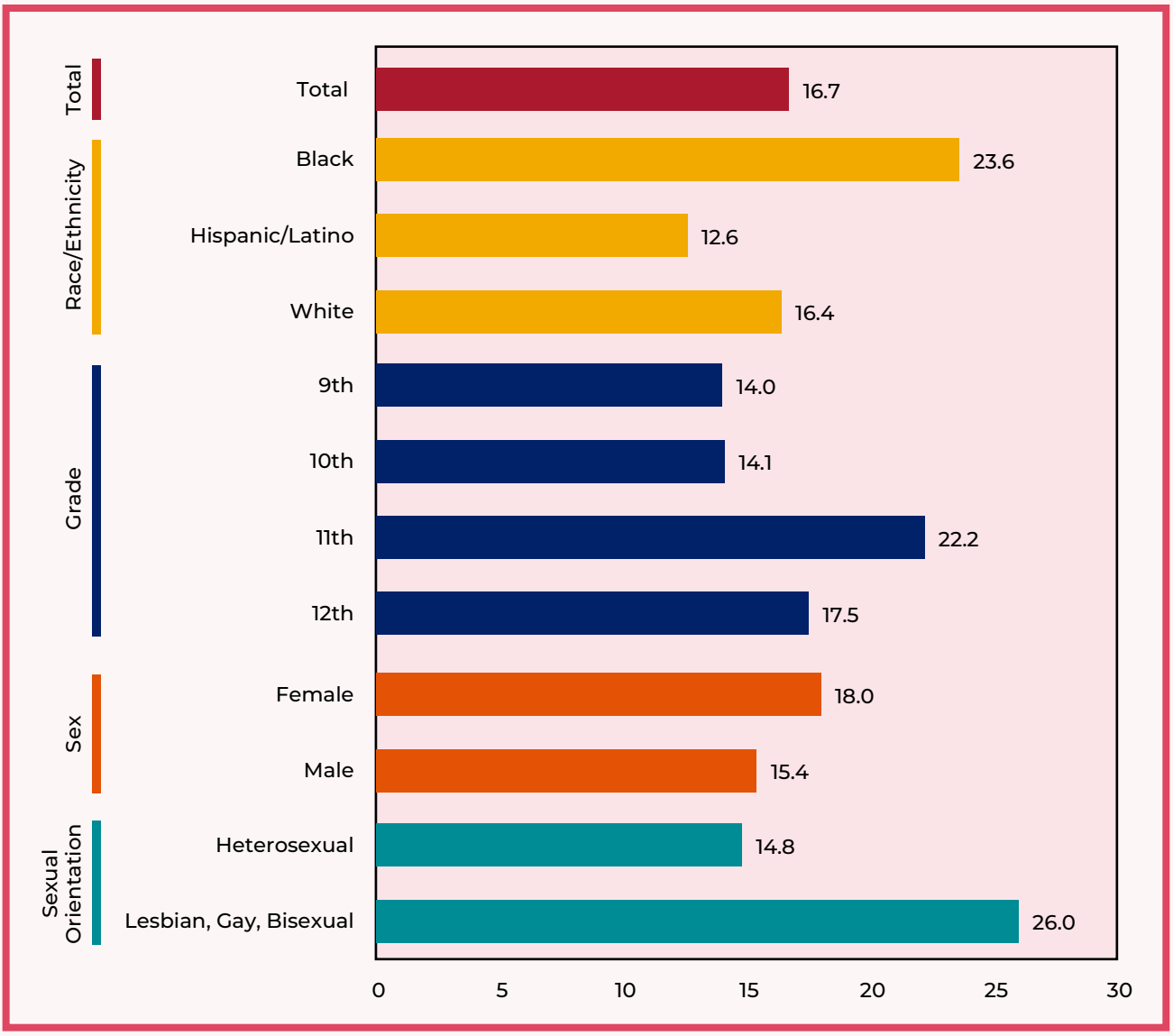


	2015	2017	2019	2021
Black	18.7	6.8	7.5	12.9
Hispanic/Latino	24.7	11.4	16.1	15.4
White	25.0	16.1	26.2	23.0

Currently Used Marijuana

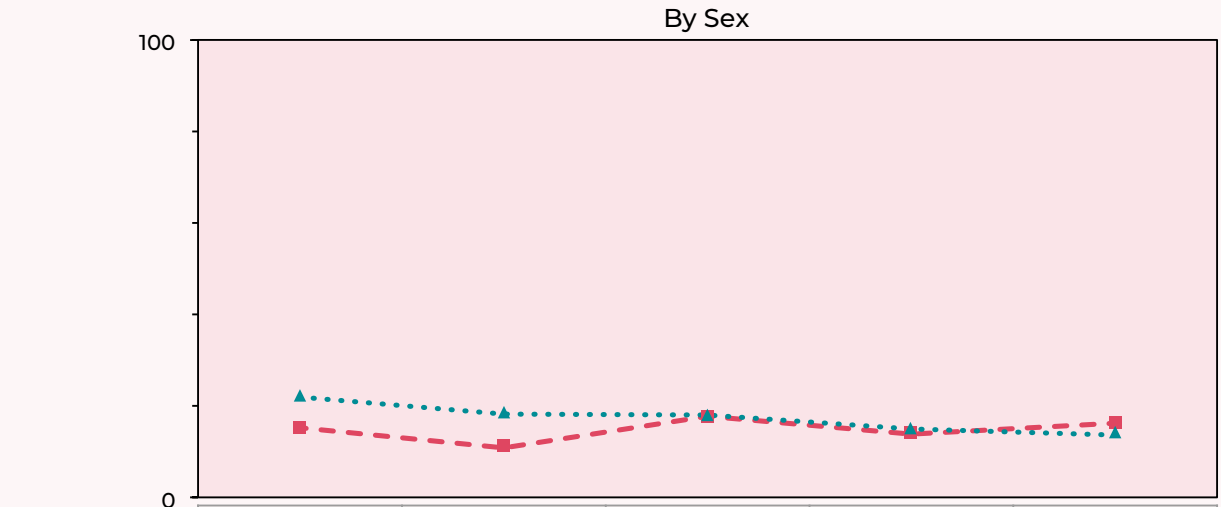
Black students had a higher prevalence for currently using marijuana than white and Hispanic students. Students who identified as lesbian, gay or bisexual were more likely to currently use marijuana than heterosexual students.

Percentage of High School Students who **Currently Used Marijuana*** in the Past Month, by Demographic Characteristics,† Missouri, YRBS, 2021



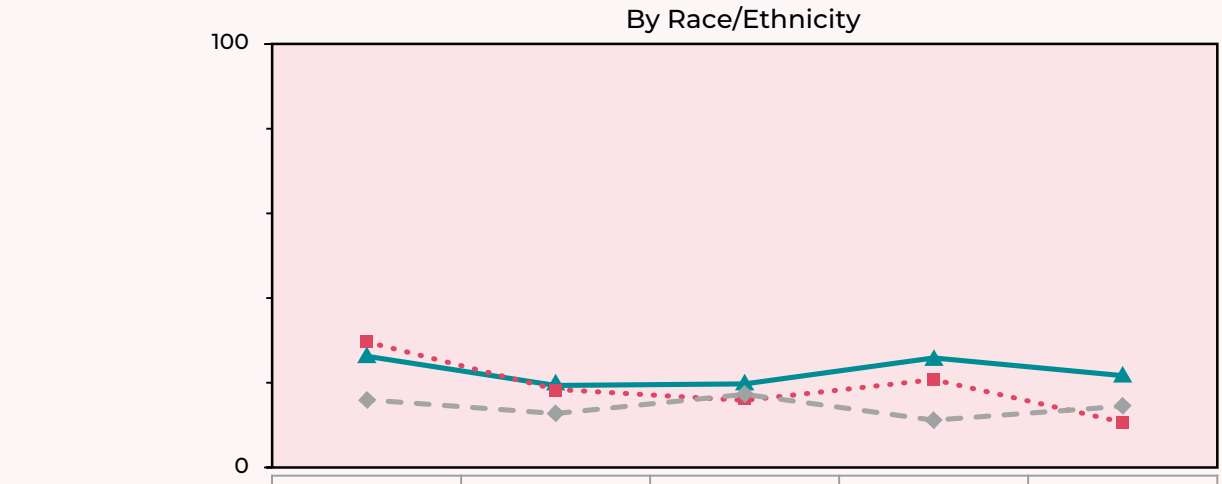
*At least once in the 30 days before the survey.
†11th > 10th; B > H, B > W; LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Currently Used Marijuana** in the Past Month, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	17.0	12.6	19.5	15.6	18.0
Male*	23.7	20.0	19.8	16.7	15.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



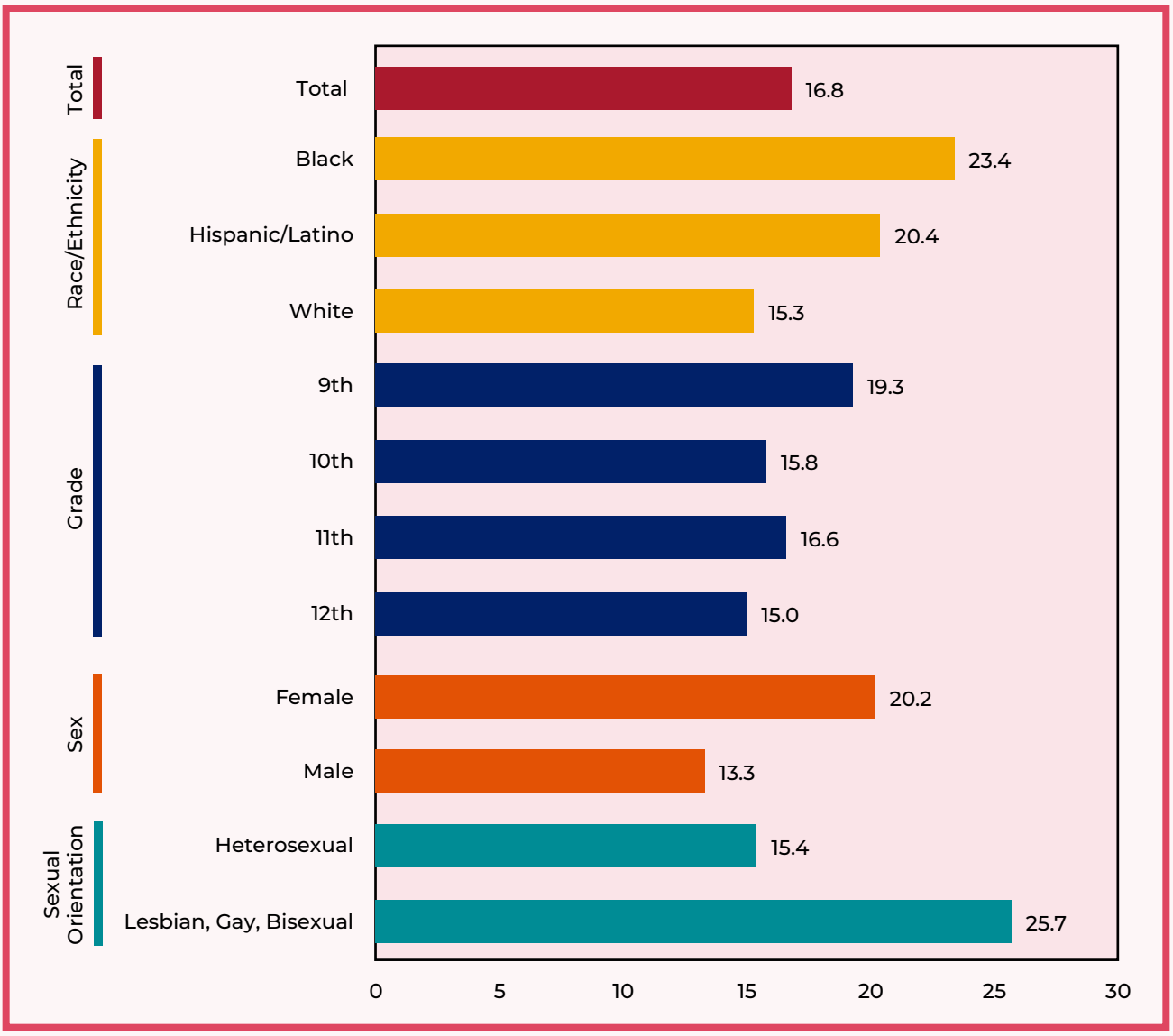
	2013	2015	2017	2019	2021
Black	28.2	21.3	21.7	27.8	23.6
Hispanic/Latino*	31.6	20.4	17.8	22.7	12.6
White	17.9	14.7	19.2	13.1	16.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Ever Misused Prescription Opioids

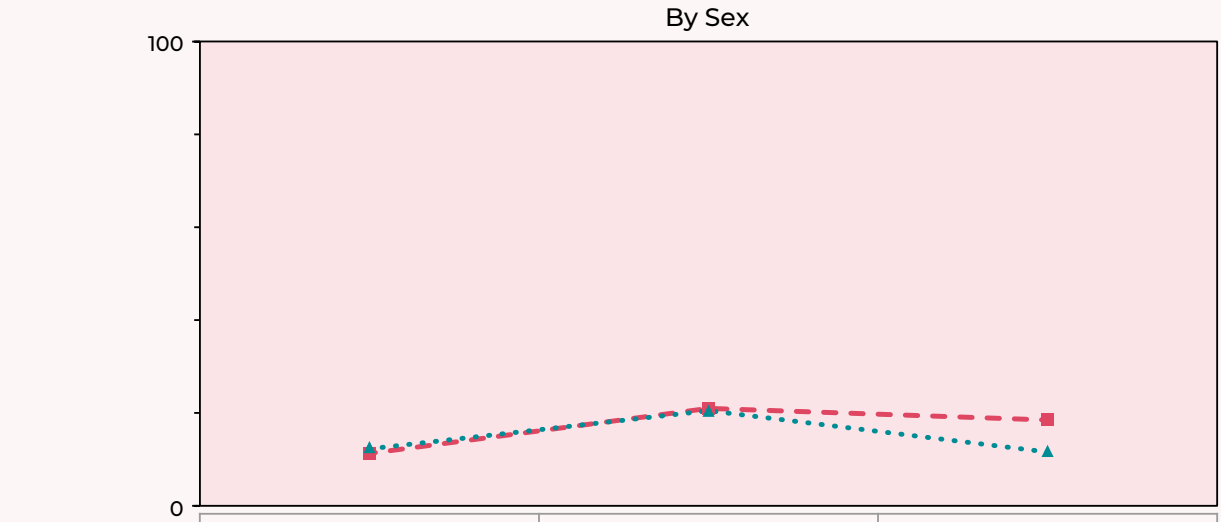
Female students had a higher prevalence of prescription opioid misuse than male students.

Percentage of High School Students who had **Ever Misused Prescription Opioids,*** by Demographic Characteristics,† Missouri, YRBS, 2021



*Such as using codeine, Vicodin, OxyContin, Hydrocodone and Percocet without a prescription at least once in their life.
†F > M (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

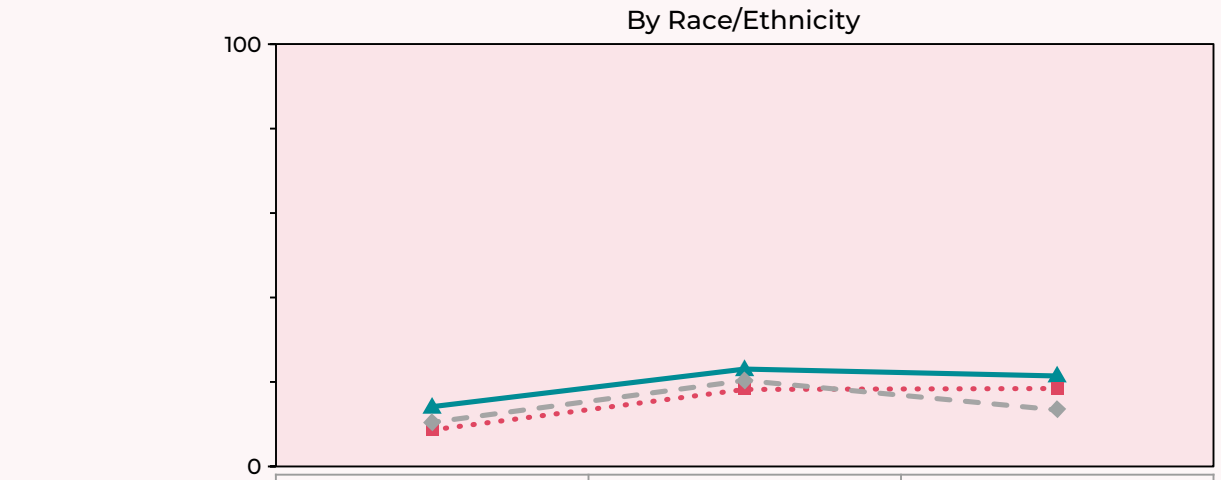
Trends in the Percentage of High School Students who had **Ever Misused Prescription Opioids**, Missouri, YRBS, 2017-2021



	2017	2019	2021
Female*	13.0	22.7	20.2
Male	14.0	22.2	13.3

Female Male

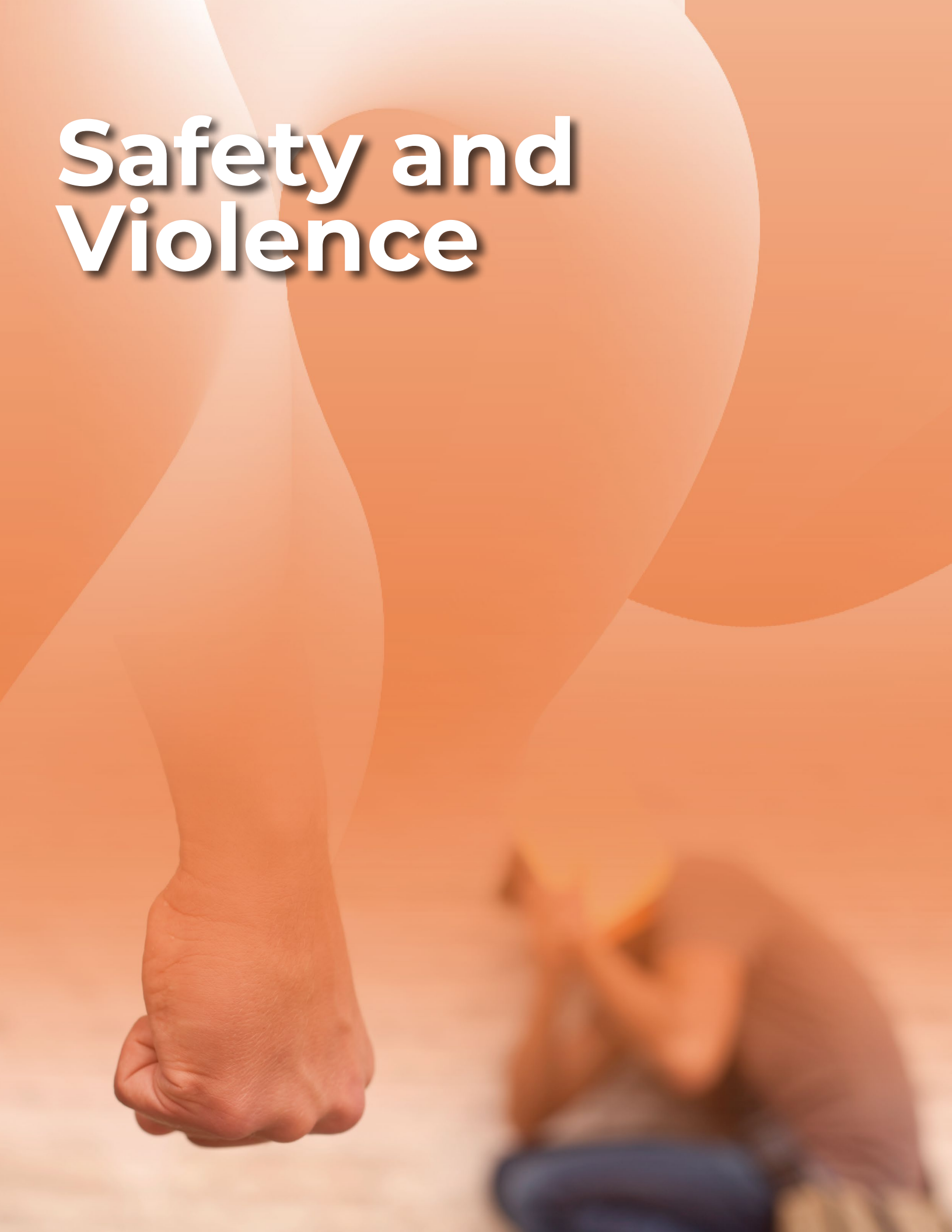
*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



	2017	2019	2021
Black	16.1	25.0	23.4
Hispanic/Latino*	10.6	20.2	20.4
White	12.4	22.3	15.3

Black Hispanic/Latino White

Safety and Violence



AT-A-GLANCE:
Safety and Violence

In Missouri, unintentional accidents and violence are among the leading causes of death and nonfatal injuries for adolescents.[5, 6] Motor vehicle accidents constitute a large proportion of these accidents.[7] The risk for motor vehicle crashes can vary depending on safety practices such as seat belt use or driving while impaired.[8] In addition, teens frequently experience violence, and often more than one type. Different forms of violence, such as physical, sexual, dating and bullying are associated with diminished academic performance, depression and suicidal thoughts, and substance use.[9] Experiencing violence during adolescence can disrupt development and lead to current or future risk.

The YRBS questions related to safety included seat belt use, impaired driving and distracted driving. Violence questions included skipping school due to safety concerns, being involved in a physical fight and domestic abuse. Three questions considered sexual violence situations. Two addressed bullying.

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Did not always wear a seat belt	50.1	45.5	42.0	50.1	42.3	◆
Rode with a driver who had been drinking alcohol	19.3	18.5	15.7	15.8	15.0	◆
Drove a vehicle after drinking alcohol	8.9	6.8	5.3	4.2	4.3	▼
Texted while driving	-	-	-	-	42.5	-
Rode with a driver who was texting while driving	-	-	65.1	63.7	59.6	◆
Skipped school because of safety concerns	-	6.1	6.4	6.4	8.9	◆
Involved in a physical fight	-	-	19.7	24.7	16.0	◆
Forced into sexual intercourse	10.2	8.4	10.2	10.0	12.3	◆
Experienced sexual violence	-	-	-	-	12.6	-
Experienced sexual dating violence	-	-	-	-	9.0	-
Experienced physical dating violence	9.6	11.7	10.4	8.4	7.1	▼
Bullied on school property	25.2	21.4	23.3	21.0	15.4	▼
Electronically bullied	-	16.6	19.4	18.1	13.9	◆

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

◆ In wrong direction
◆ No change
▼ In right direction

SUMMARY OF RESULTS:
Safety and Violence

The results from the survey revealed a decrease in students driving a vehicle after drinking alcohol. However, there was not a significant difference in students riding in a car with someone who had been drinking. The percentage of students who missed school due to safety concerns or who were in a physical fight in the previous year did not change. Fewer students were being bullied on school property. From 2013 to 2021, there was a decrease in the percentage of high school students who experienced physical abuse by someone they were dating.

In 2021

Over 40% of students had texted or e-mailed while driving, and 60% had ridden in a car where the driver was distracted.

Female students were more likely than males to be bullied in school and electronically.

Students who identified as lesbian, gay or bisexual had a statistically higher prevalence of being forced to have sexual intercourse than heterosexual students.

Trends

Black students and Hispanic students both showed decreases in riding with a driver who had been drinking. From 2013 to 2021, fewer male students rode with an impaired driver and fewer drove after drinking alcohol. The percentage of Black students who experienced physical dating violence decreased from 2013 to 2021. From 2015 to 2021, more female students did not go to school because they felt unsafe at school or on their way to or from school than male students.

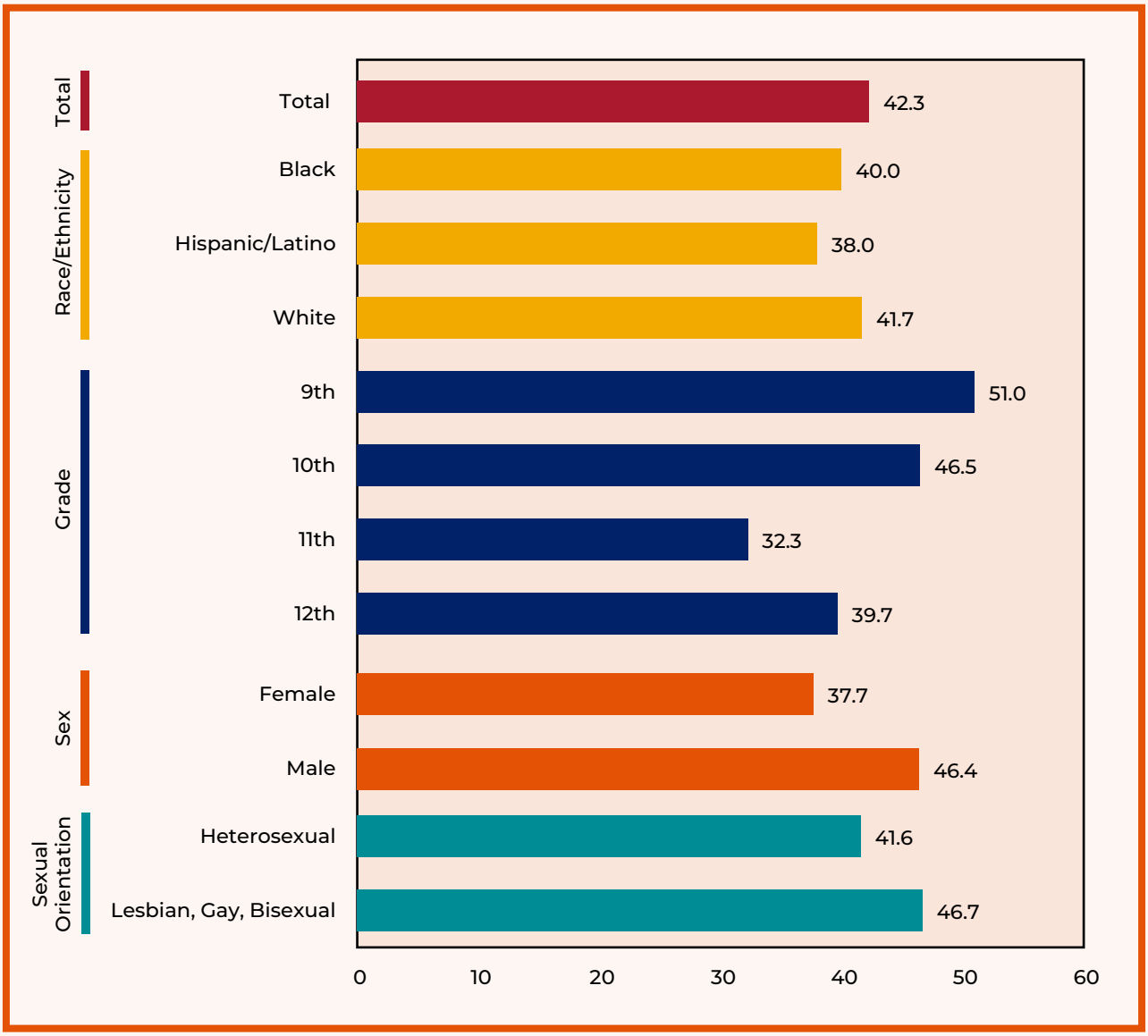
National Comparison

For 2021, Missouri adolescents fared worse than the national average in texting or emailing while driving (43% vs. 36%) and being forced to have sexual intercourse (12% vs. 8%). Missouri's YRBS results were similar to the national YRBS for all other safety and violence variables.

Did Not Always Wear a Seat Belt

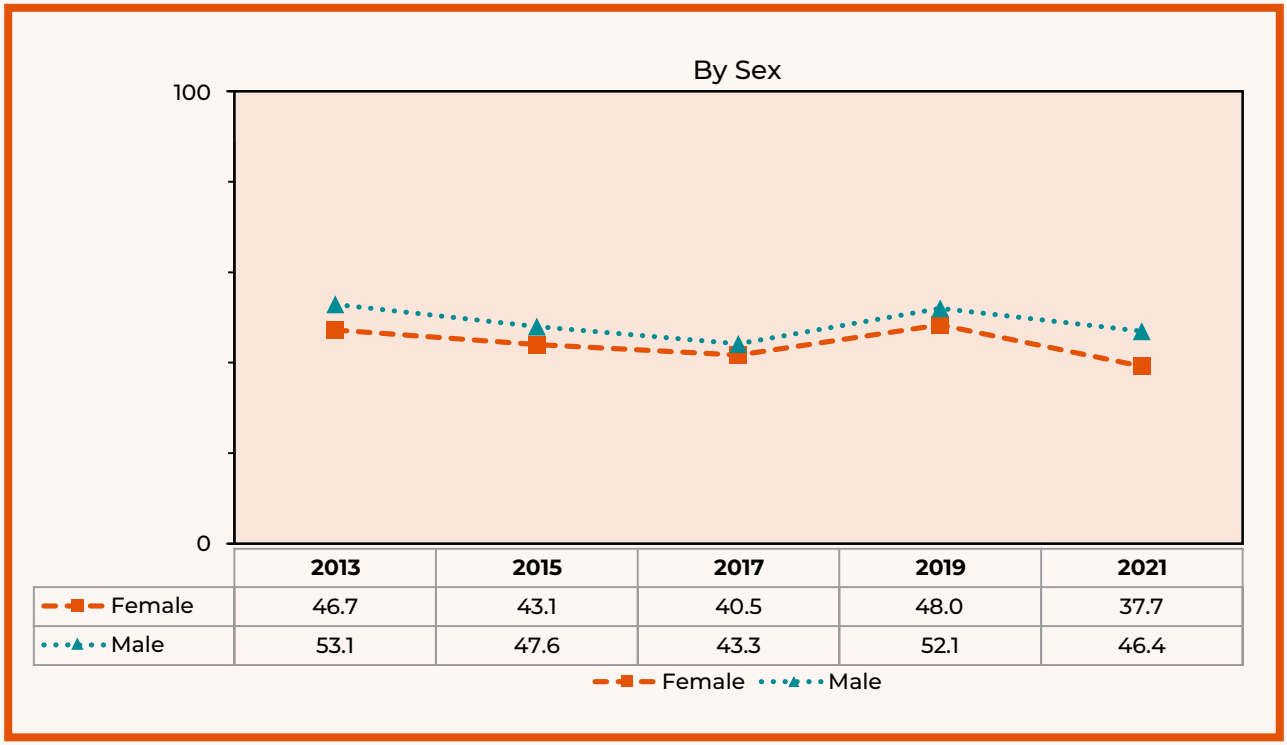
Students in 11th grade were more likely to always wear a seat belt than students in 9th and 10th grade.

Percentage of High School Students who Did Not Always Wear a Seat Belt,* by Demographic Characteristics,† Missouri, YRBS, 2021

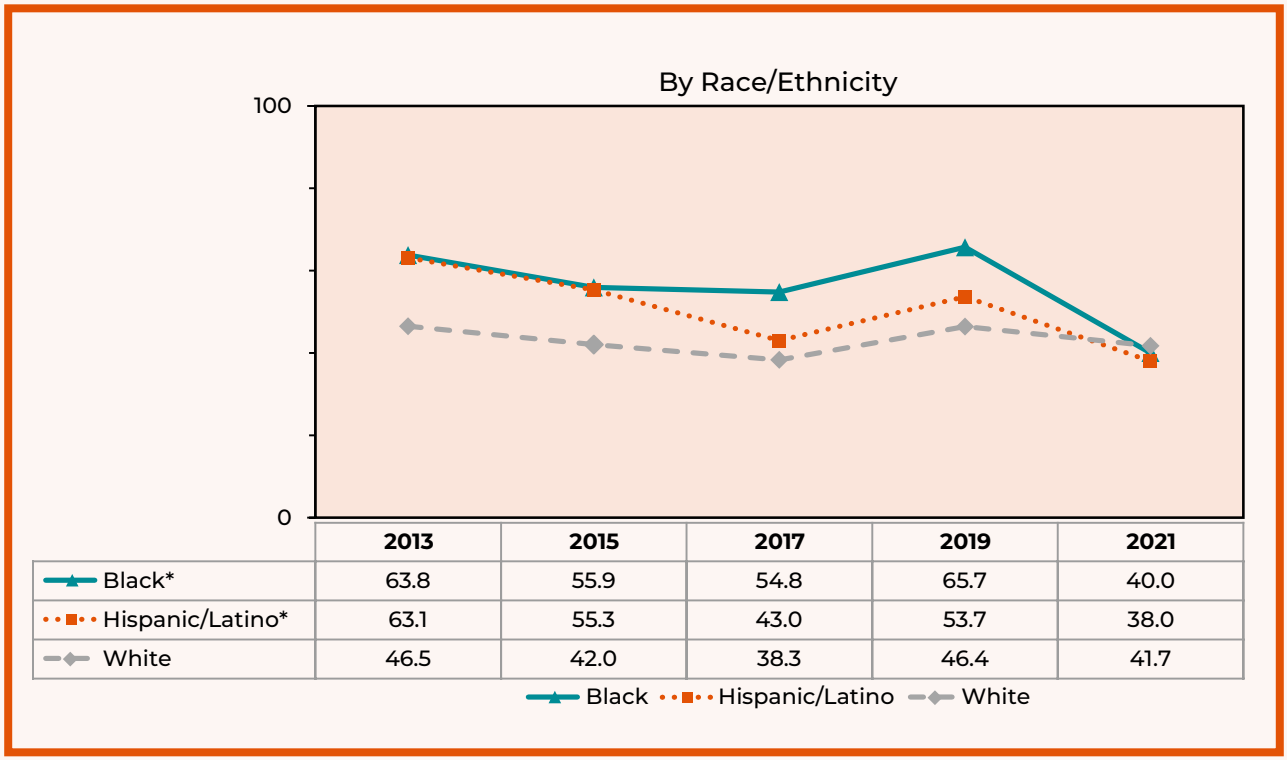


*When riding in a car driven by someone else.
†9th > 11th, 10th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Did Not Always Wear a Seat Belt**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	46.7	43.1	40.5	48.0	37.7
Male	53.1	47.6	43.3	52.1	46.4



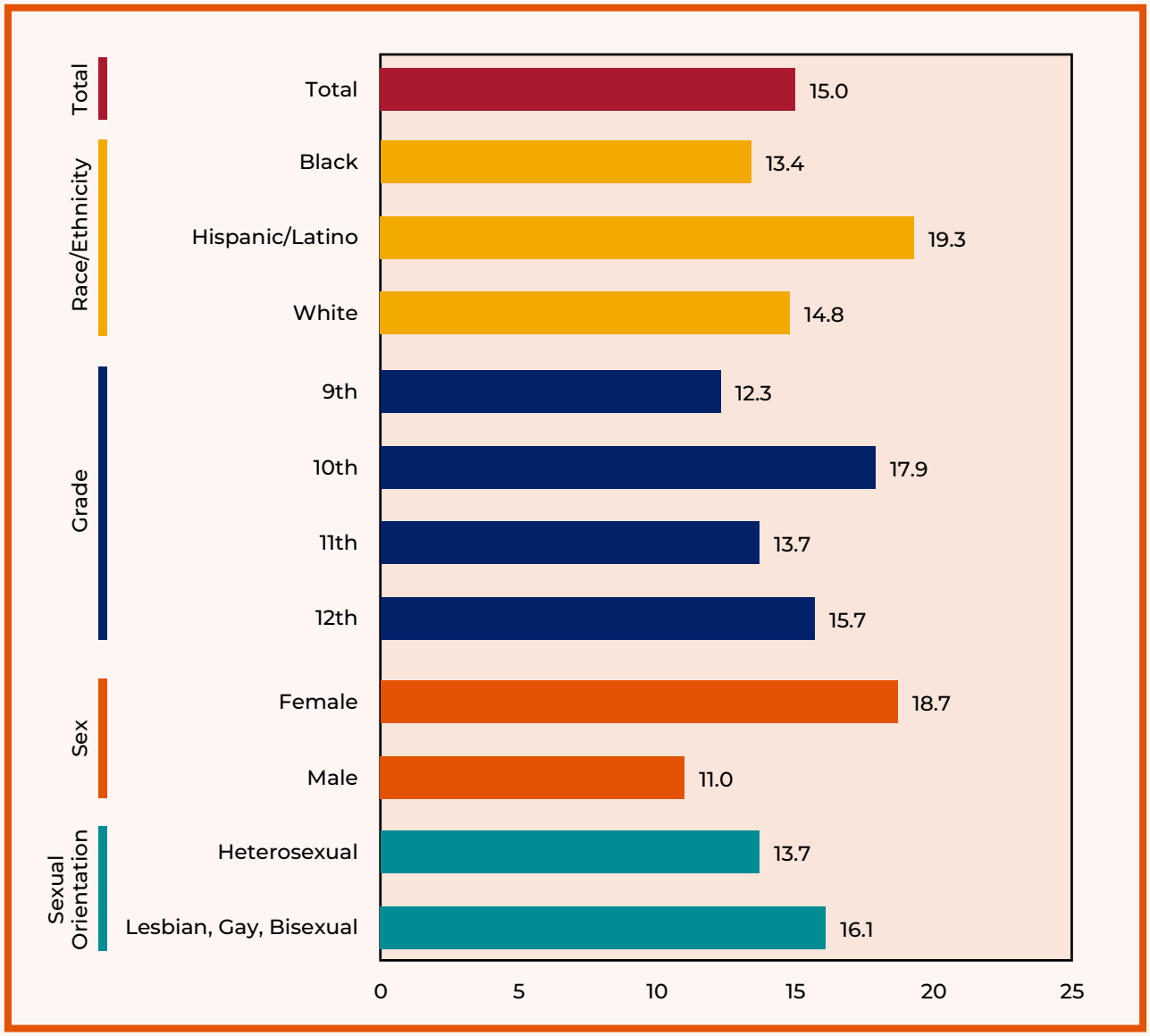
	2013	2015	2017	2019	2021
Black*	63.8	55.9	54.8	65.7	40.0
Hispanic/Latino*	63.1	55.3	43.0	53.7	38.0
White	46.5	42.0	38.3	46.4	41.7

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Rode With a Driver who had Been Drinking Alcohol

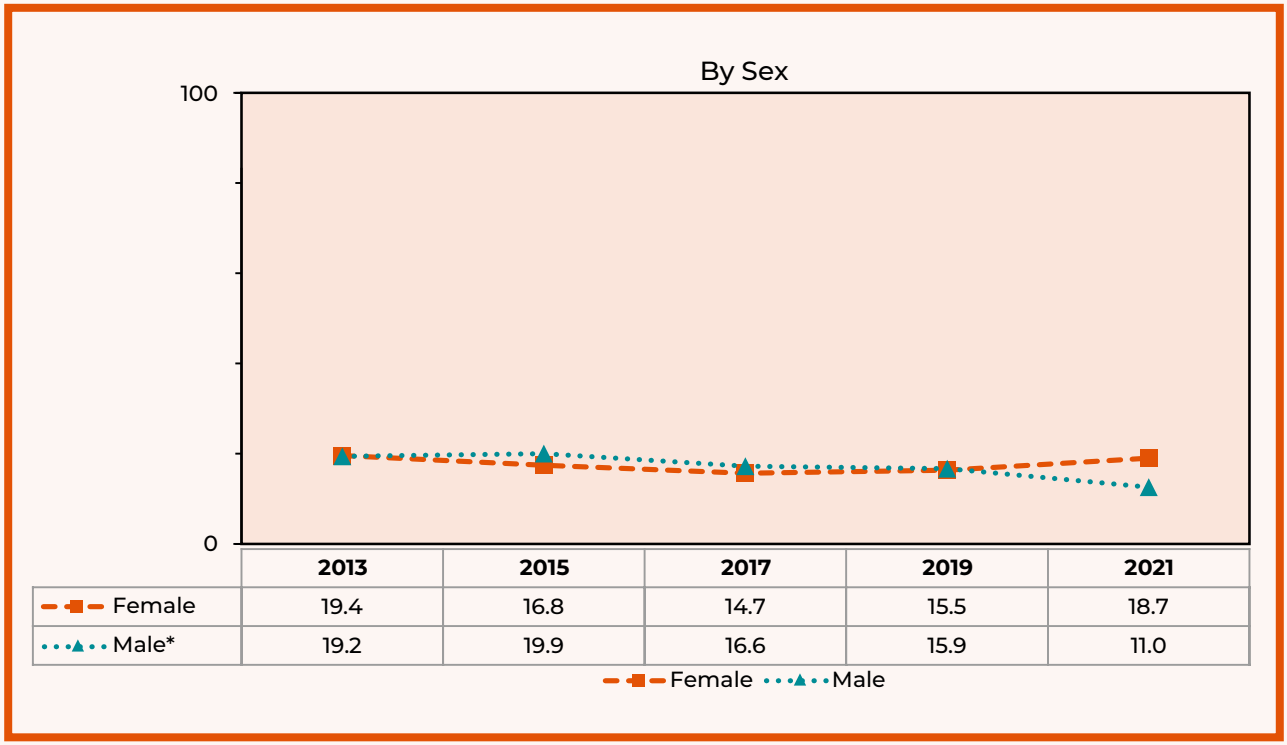
There were no significant differences in riding with an impaired driver when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Rode With a Driver who had Been Drinking Alcohol,*** by Demographic Characteristics, Missouri, YRBS, 2021



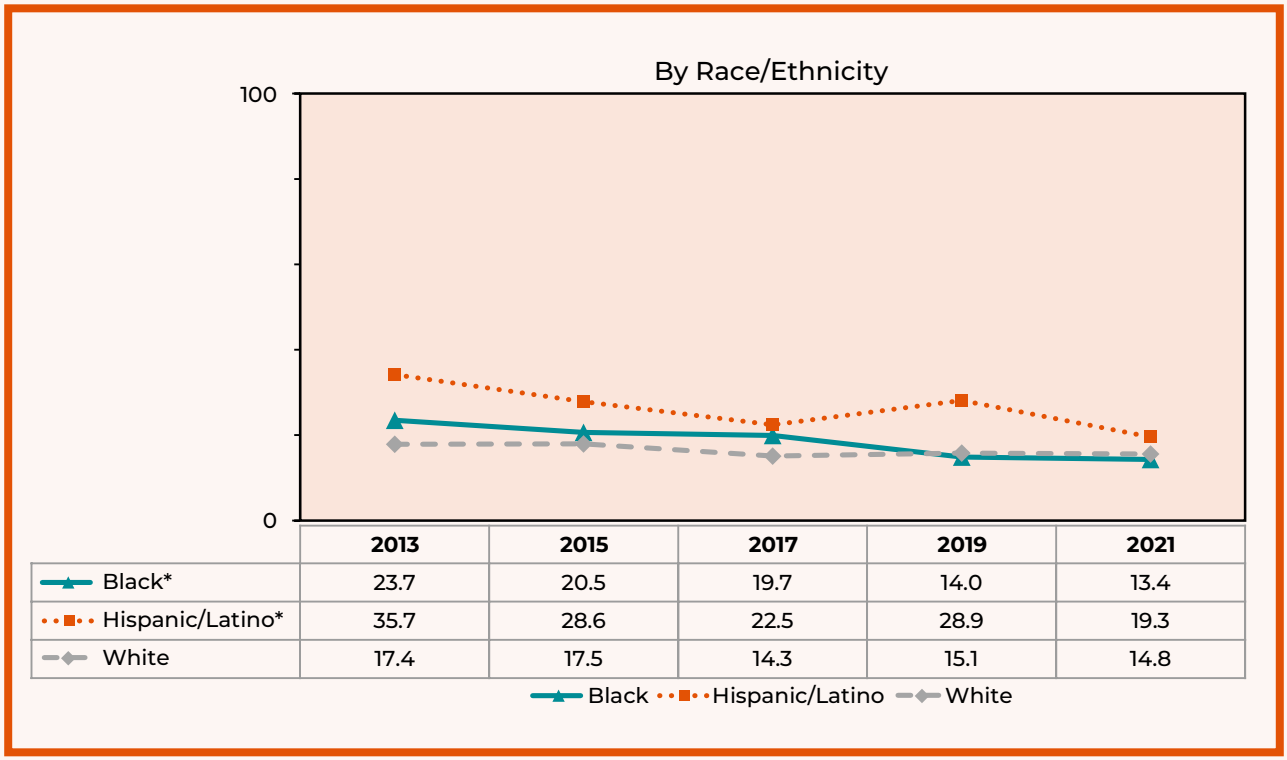
*In a car or other vehicle, at least once in the 30 days before the survey.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Rode With a Driver who had Been Drinking Alcohol**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	19.4	16.8	14.7	15.5	18.7
Male*	19.2	19.9	16.6	15.9	11.0

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



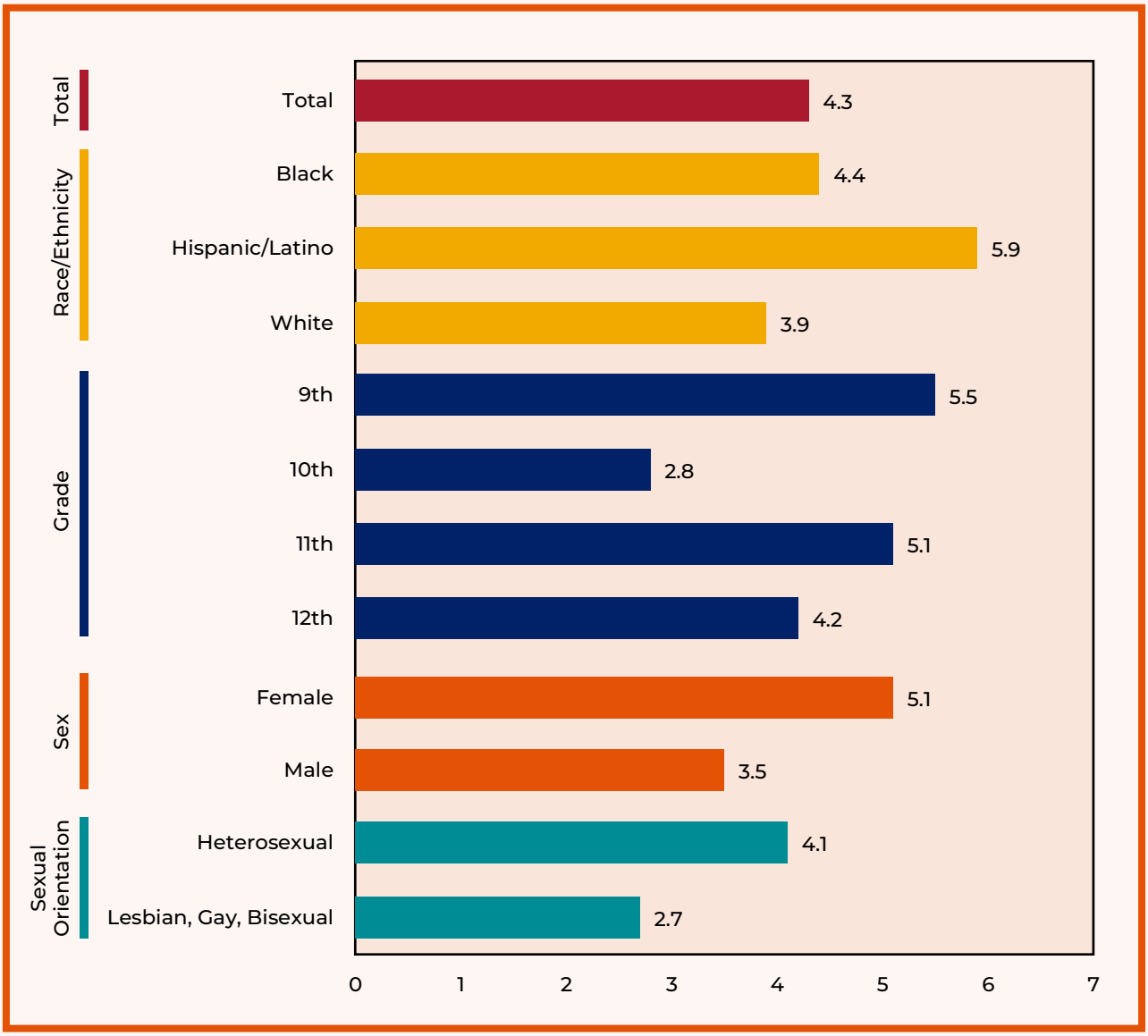
	2013	2015	2017	2019	2021
Black*	23.7	20.5	19.7	14.0	13.4
Hispanic/Latino*	35.7	28.6	22.5	28.9	19.3
White	17.4	17.5	14.3	15.1	14.8

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Drove After Drinking Alcohol

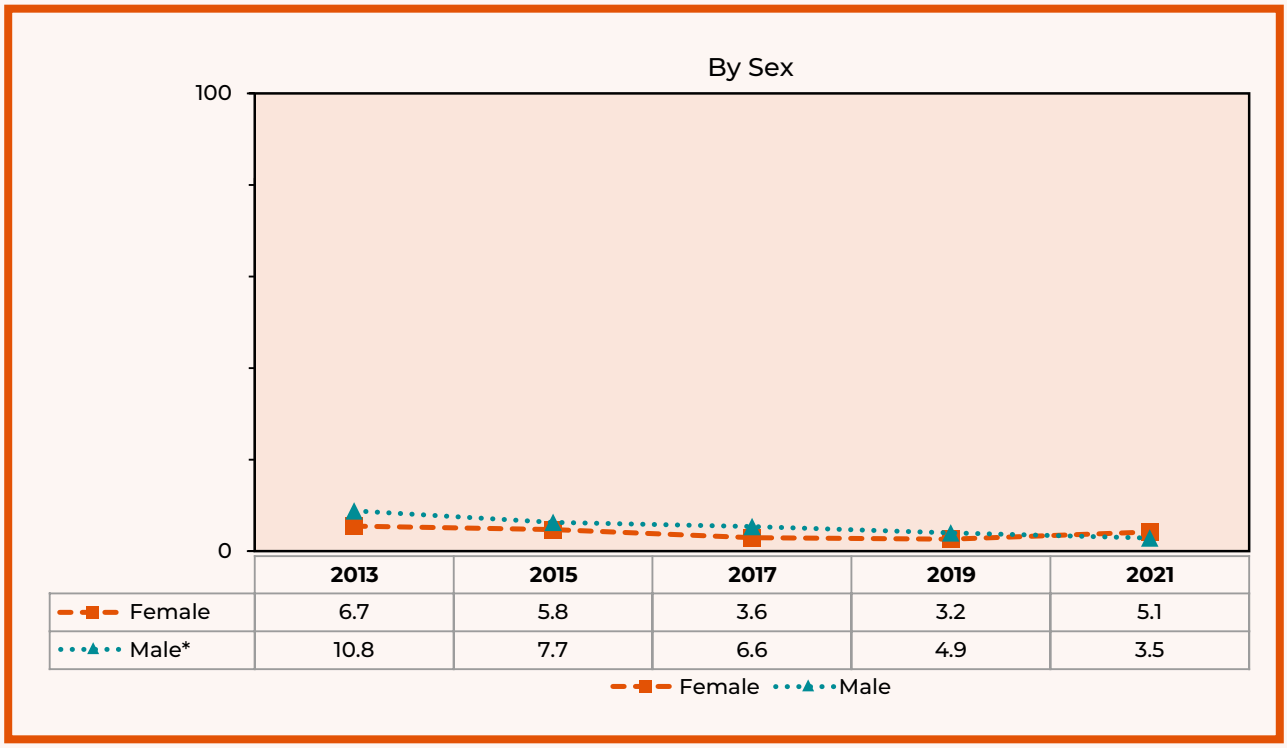
There were no significant differences for driving impaired when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Drove a Car or Other Vehicle When They had Been Drinking Alcohol,*** by Demographic Characteristics, Missouri, YRBS, 2021



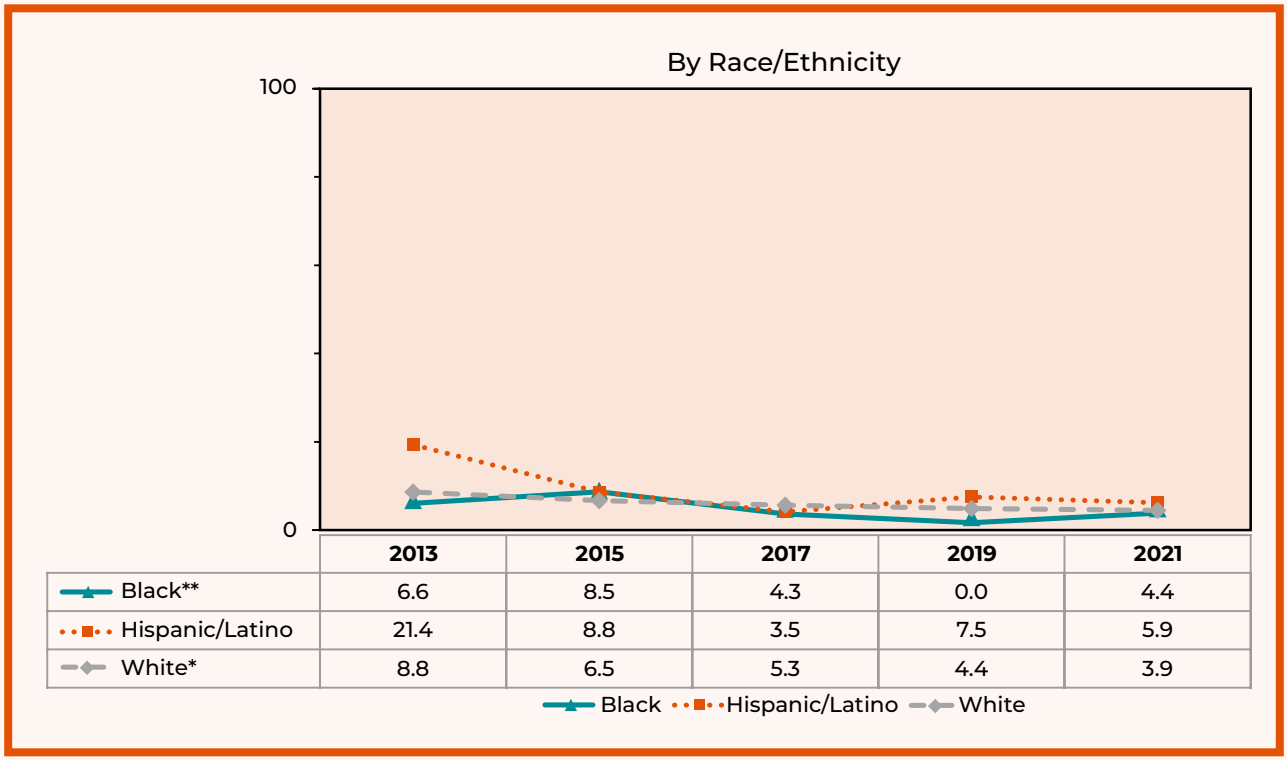
*At least once in the 30 days before the survey, among students who had driven a car or other vehicle in the 30 days before the survey.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Drove a Car or Other Vehicle When They had Been Drinking Alcohol**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	6.7	5.8	3.6	3.2	5.1
Male*	10.8	7.7	6.6	4.9	3.5

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



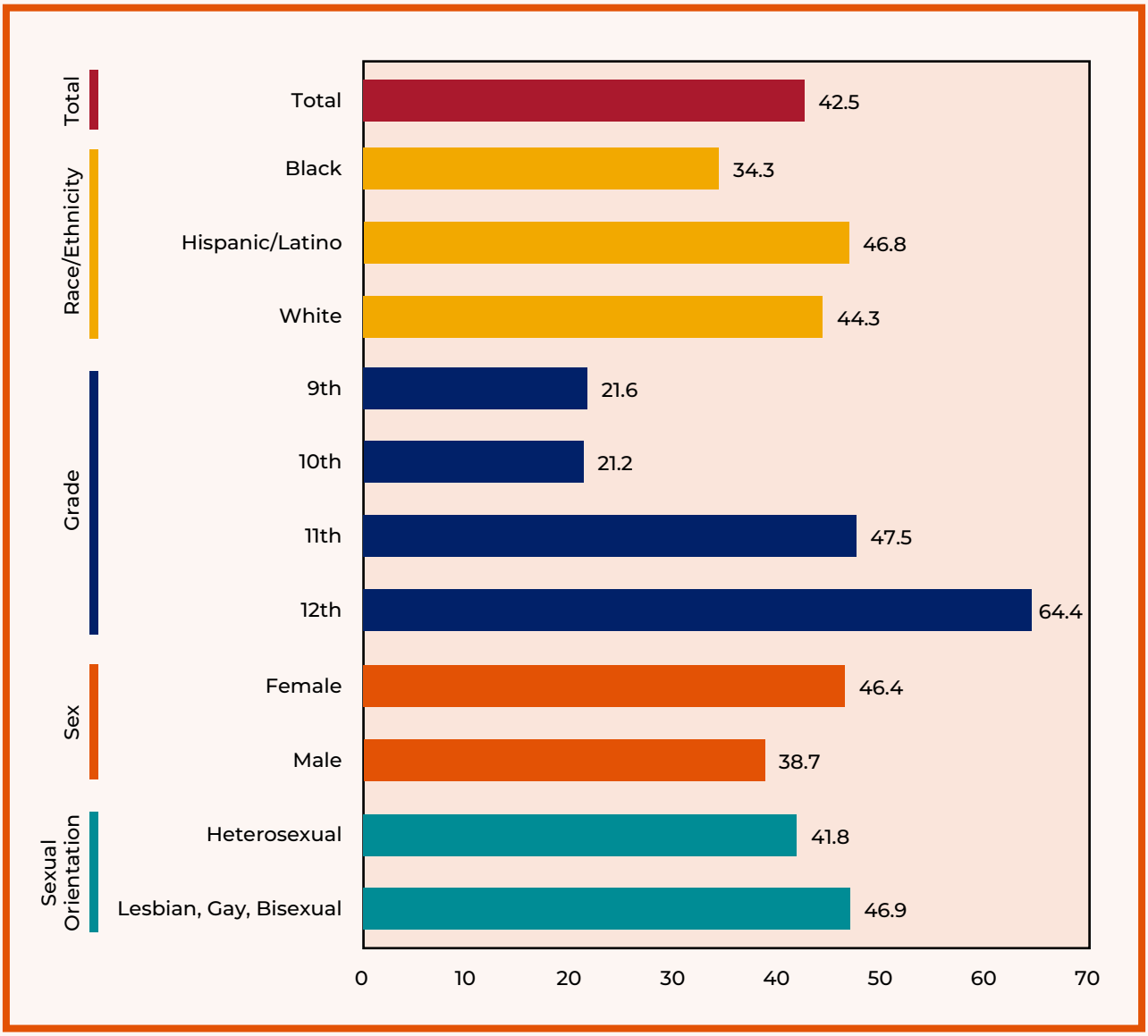
	2013	2015	2017	2019	2021
Black**	6.6	8.5	4.3	0.0	4.4
Hispanic/Latino	21.4	8.8	3.5	7.5	5.9
White*	8.8	6.5	5.3	4.4	3.9

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.
**Linear change unavailable.

Texted and Drove

Students in 12th grade were more likely to text and drive than students in 9th, 10th and 11th grade. Students in 11th grade had a higher prevalence than students in 9th and 10th grade.

Percentage of High School Students who **Texted or E-mailed on a Cell Phone While Driving,*** by Demographic Characteristics,† Missouri, YRBS, 2021

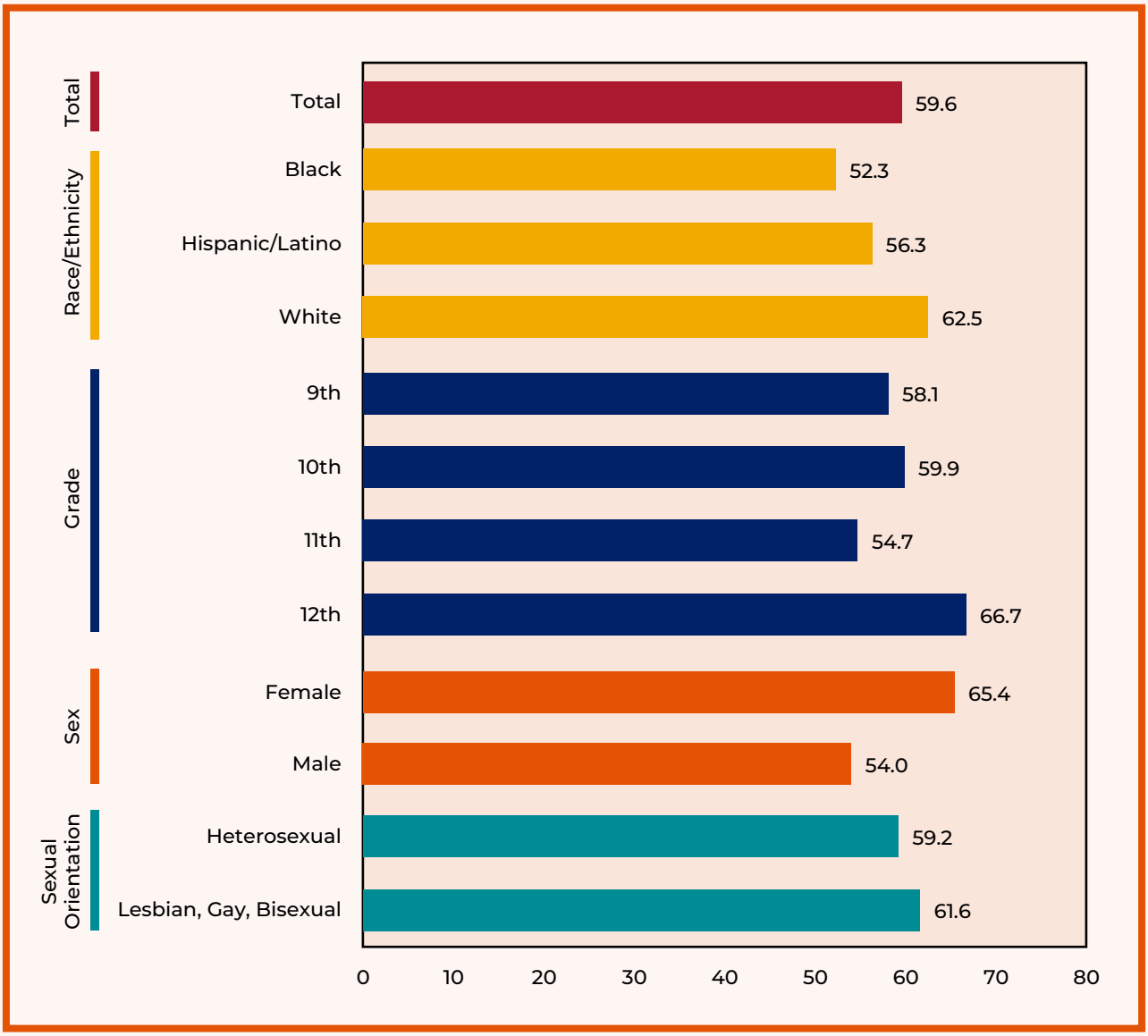


*At least once in the 30 days before the survey, among students who drove a car or other vehicle.
†11th > 9th, 11th > 10th, 12th > 9th, 12th > 10th, 12th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Rode With Someone who was Texting

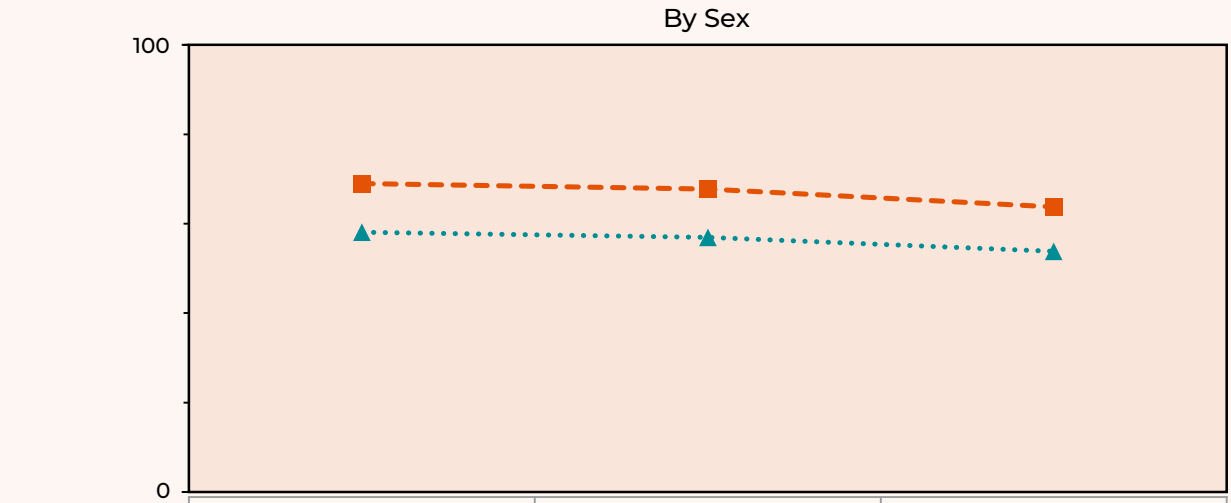
Female students were more likely to have ridden with a distracted driver than male students. The prevalence for 12th grade students was higher than for 11th grade students.

Percentage of High School Students who **Rode in a Car Being Driven by Someone who was Texting or E-mailing While Driving,*** by Demographic Characteristics,† Missouri, YRBS, 2021



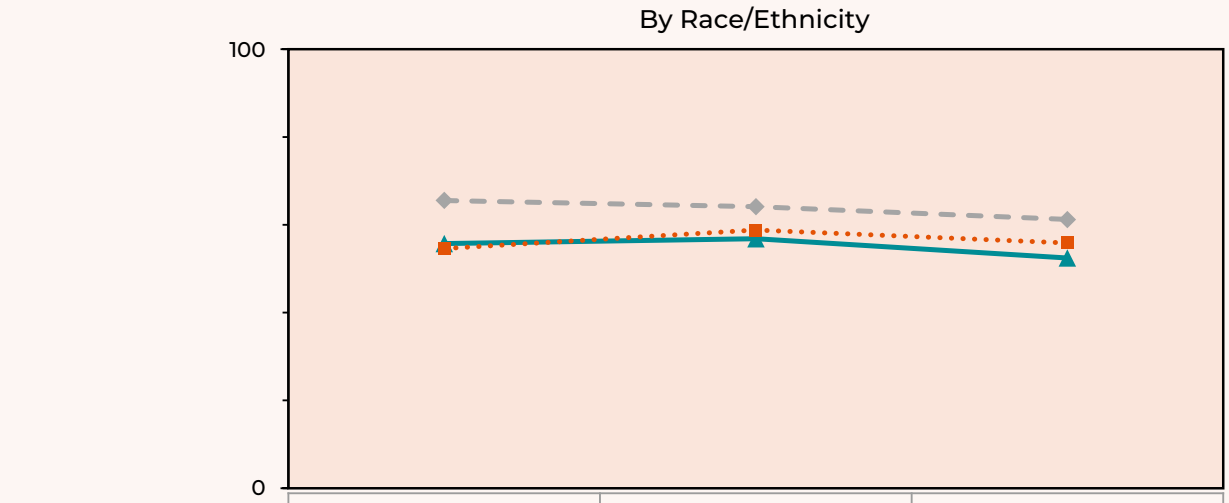
*At least once in the 30 days before the survey.
†F > M; 12th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Rode in a Car Being Driven by Someone who was Texting or E-mailing While Driving,** Missouri, YRBS, 2017-2021



	2017	2019	2021
Female	71.4	70.0	65.4
Male	58.9	57.6	54.0

Female Male



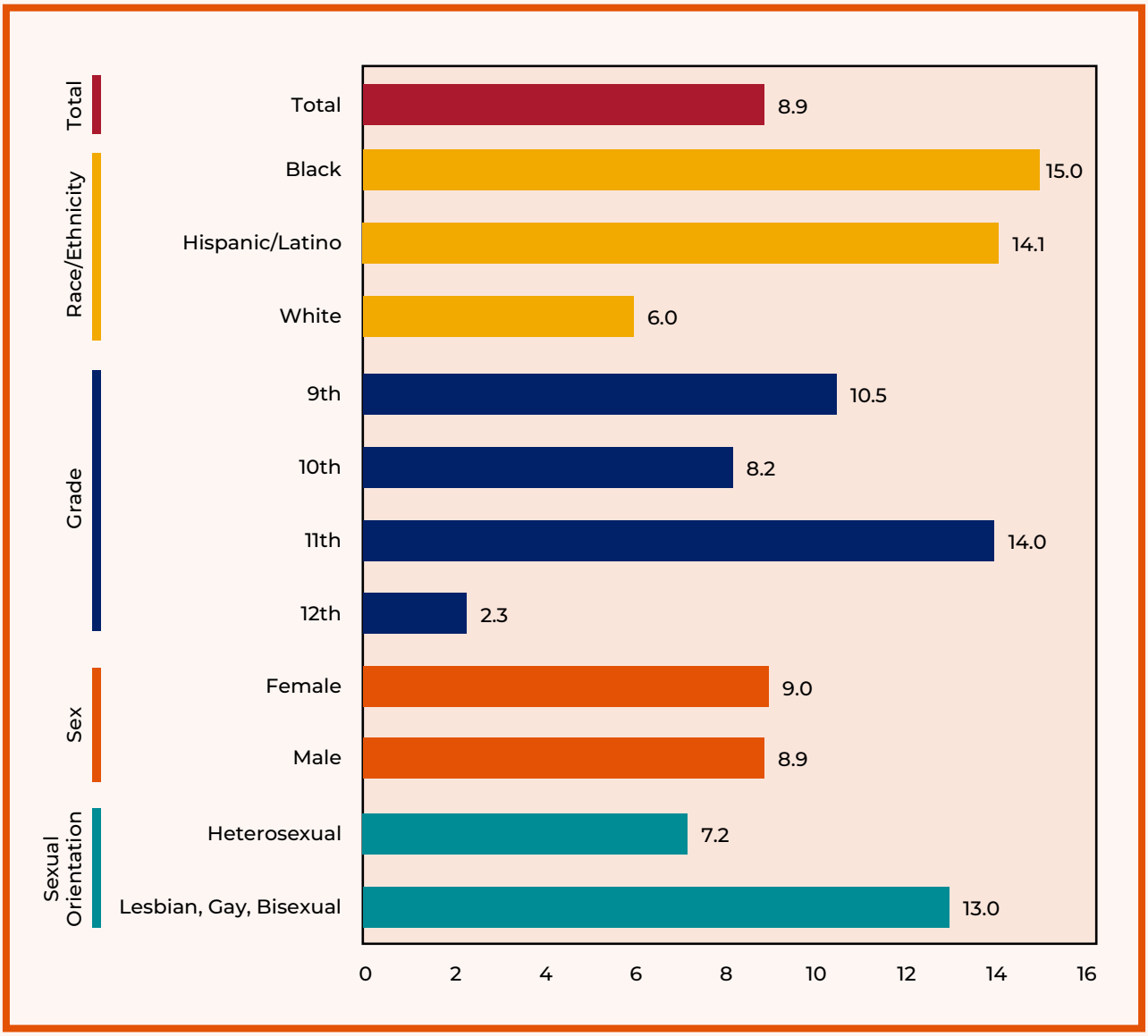
	2017	2019	2021
Black	56.1	57.4	52.3
Hispanic/Latino	54.8	59.7	56.3
White	67.5	65.9	62.5

Black Hispanic/Latino White

Safety Concerns Over School

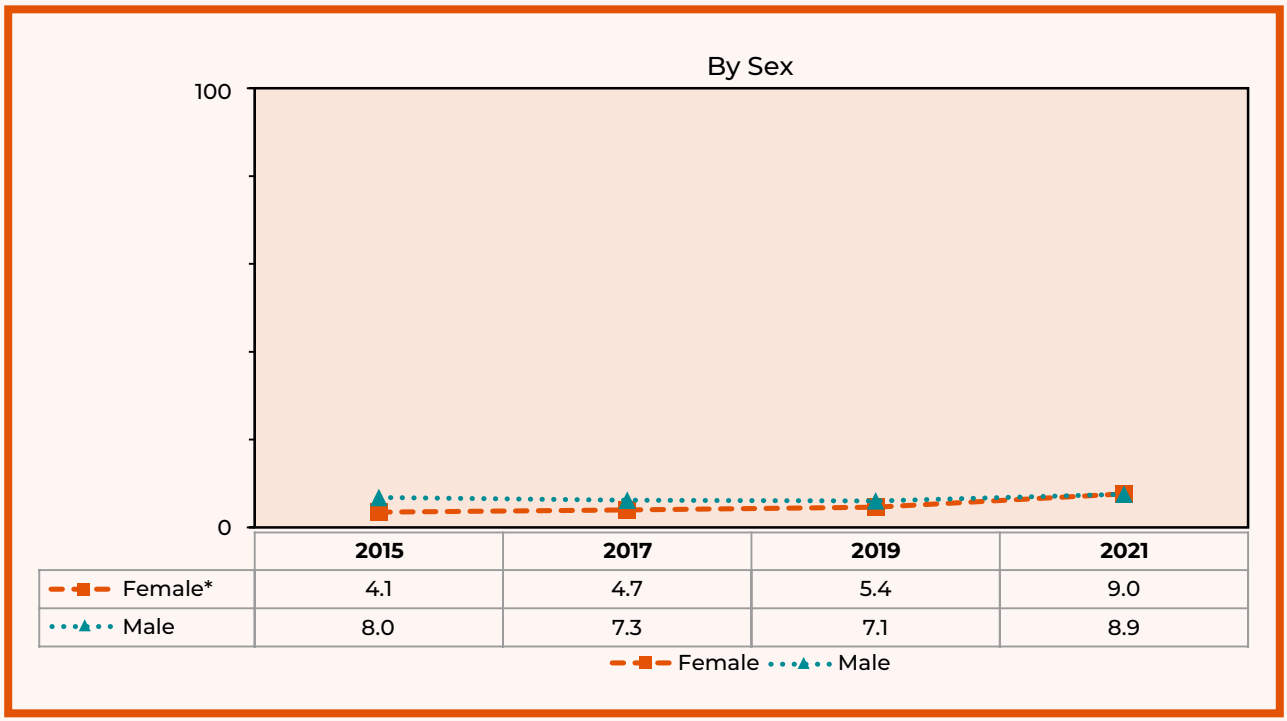
Black students were more likely to skip school because of safety concerns than white students. Students in 12th grade were less likely to skip school because they felt unsafe than students in 9th and 11th grade.

Percentage of High School Students who **Did Not go to School Because They Felt Unsafe at School or on Their Way to or From School,*** by Demographic Characteristics,† Missouri, YRBS, 2021



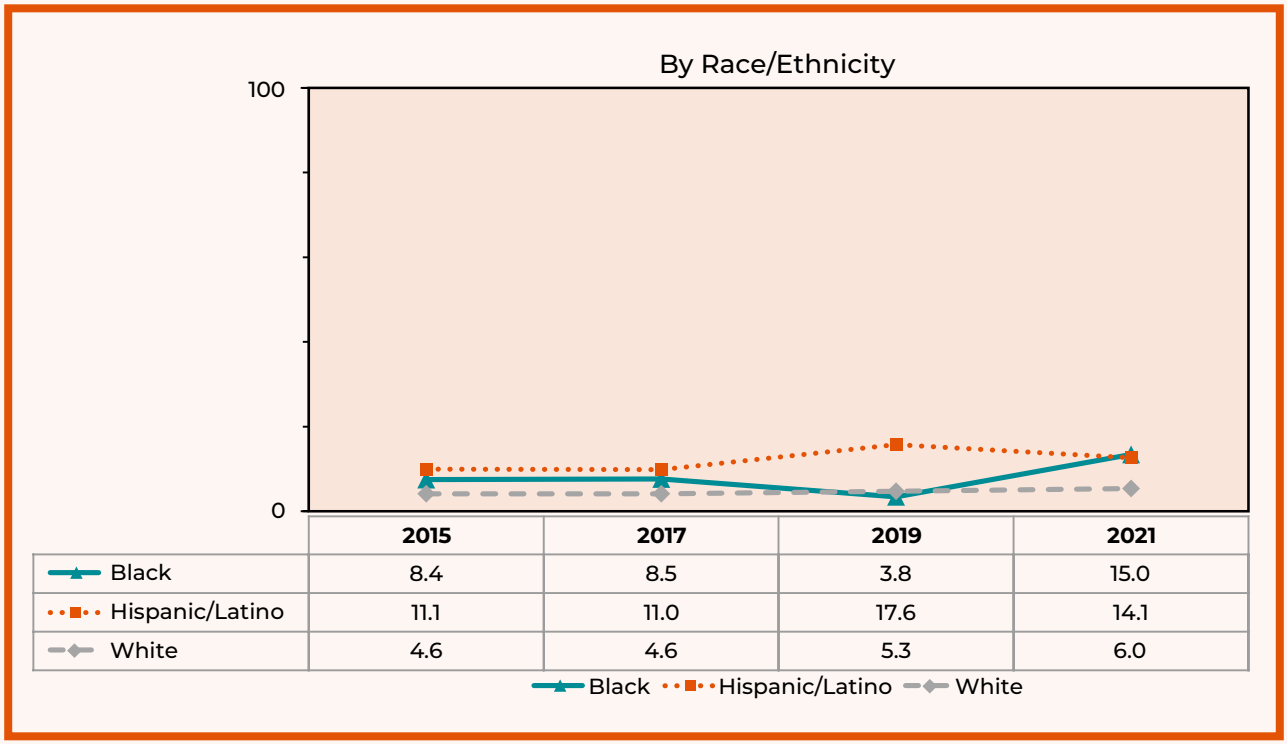
*At least once in the 30 days before the survey.
†9th > 12th, 11th > 12th; B > W (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Did Not go to School Because They Felt Unsafe at School or on Their Way to or From School**, Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female*	4.1	4.7	5.4	9.0
Male	8.0	7.3	7.1	8.9

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

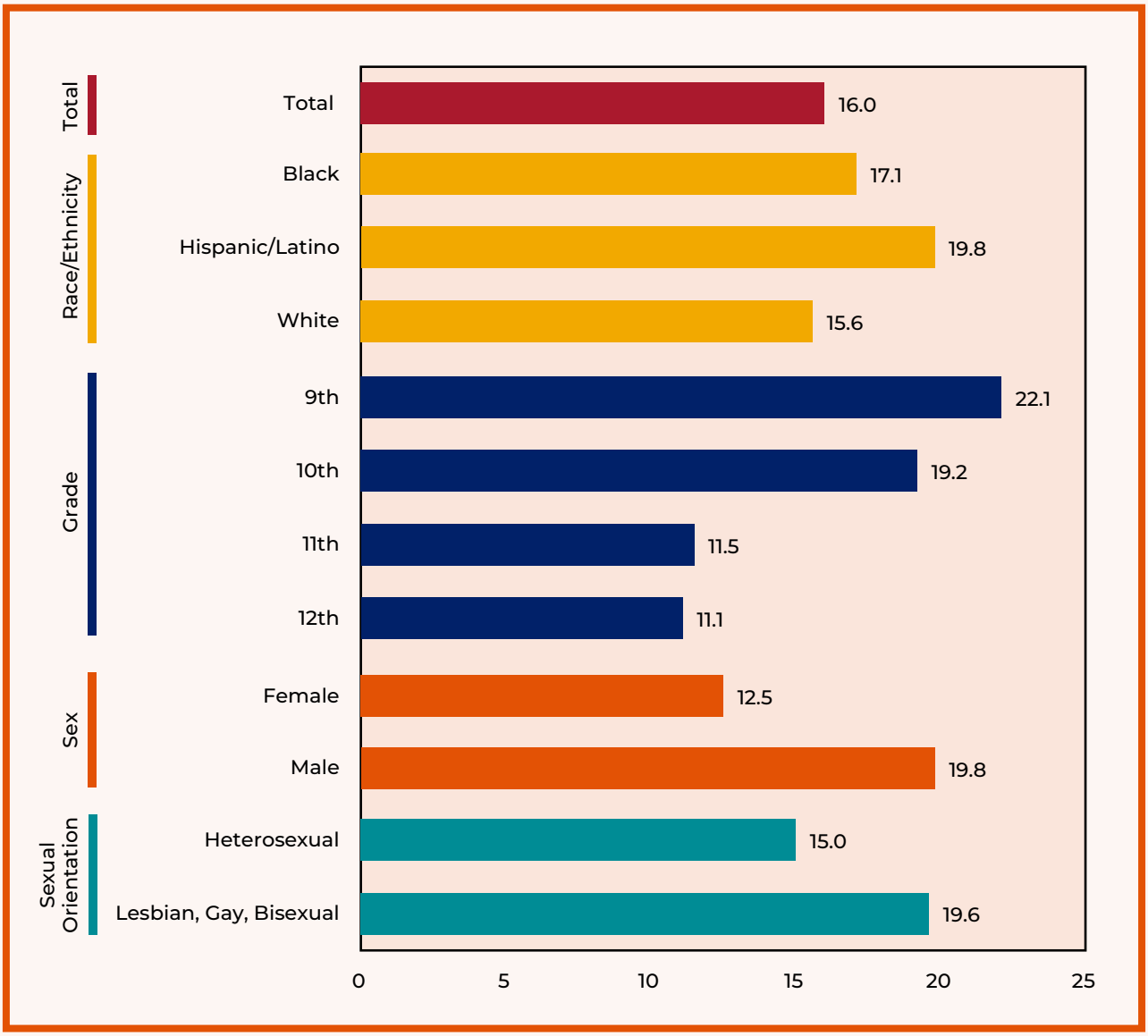


	2015	2017	2019	2021
Black	8.4	8.5	3.8	15.0
Hispanic/Latino	11.1	11.0	17.6	14.1
White	4.6	4.6	5.3	6.0

Involved in a Physical Fight

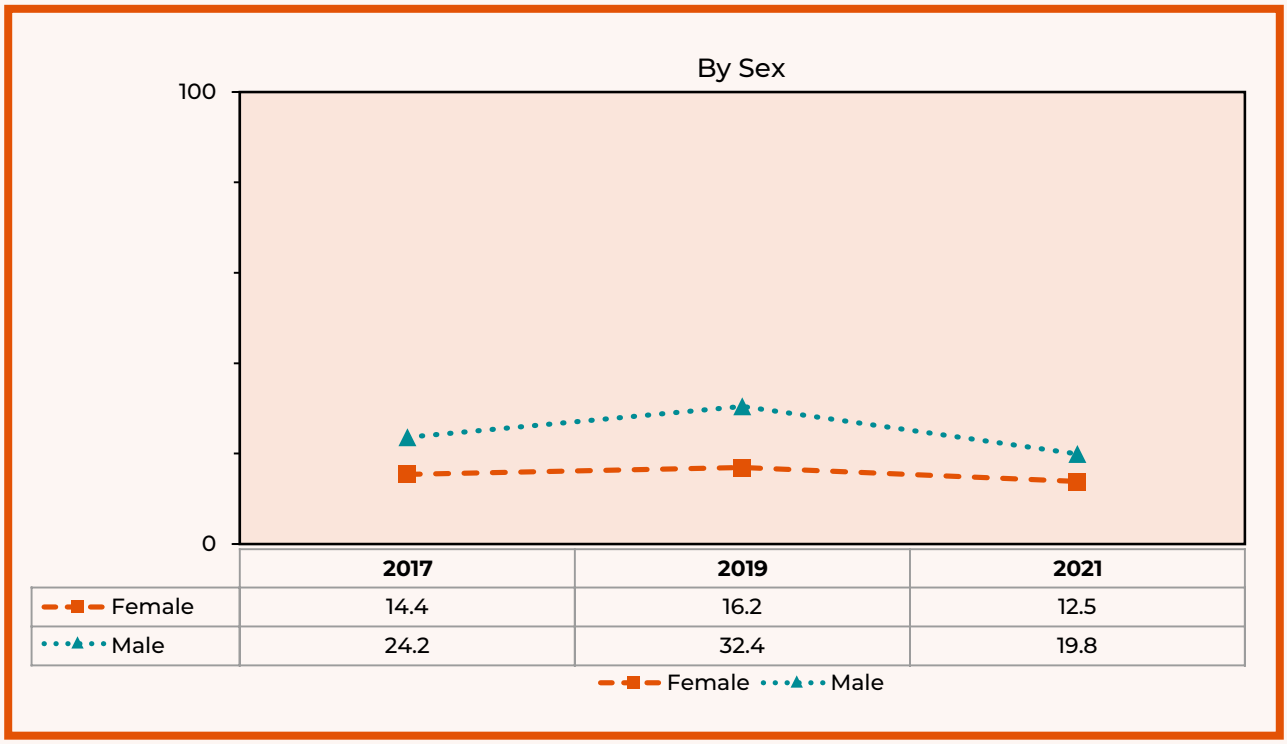
Male students were more likely to get into a physical fight than female students.

Percentage of High School Students who **Were in a Physical Fight** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

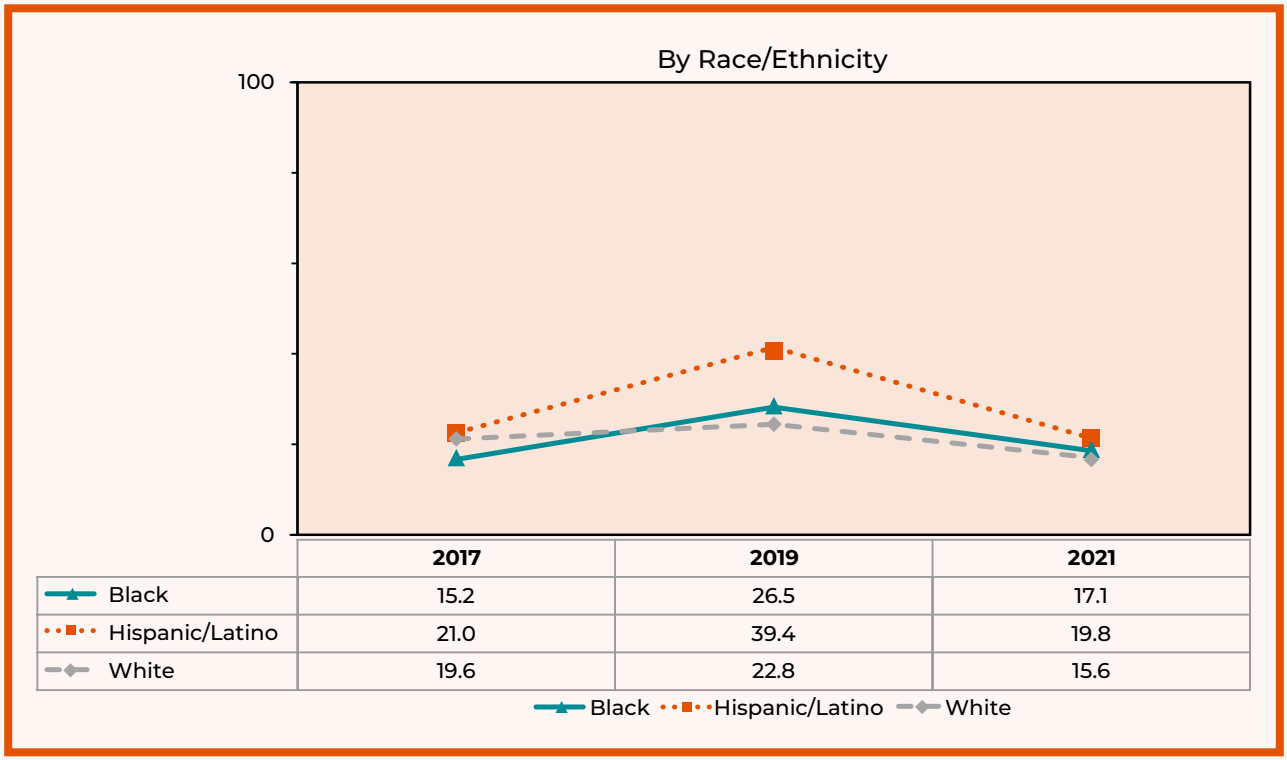


†M > F (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Were in a Physical Fight** in the Past Year, Missouri, YRBS, 2017-2021



	2017	2019	2021
Female	14.4	16.2	12.5
Male	24.2	32.4	19.8

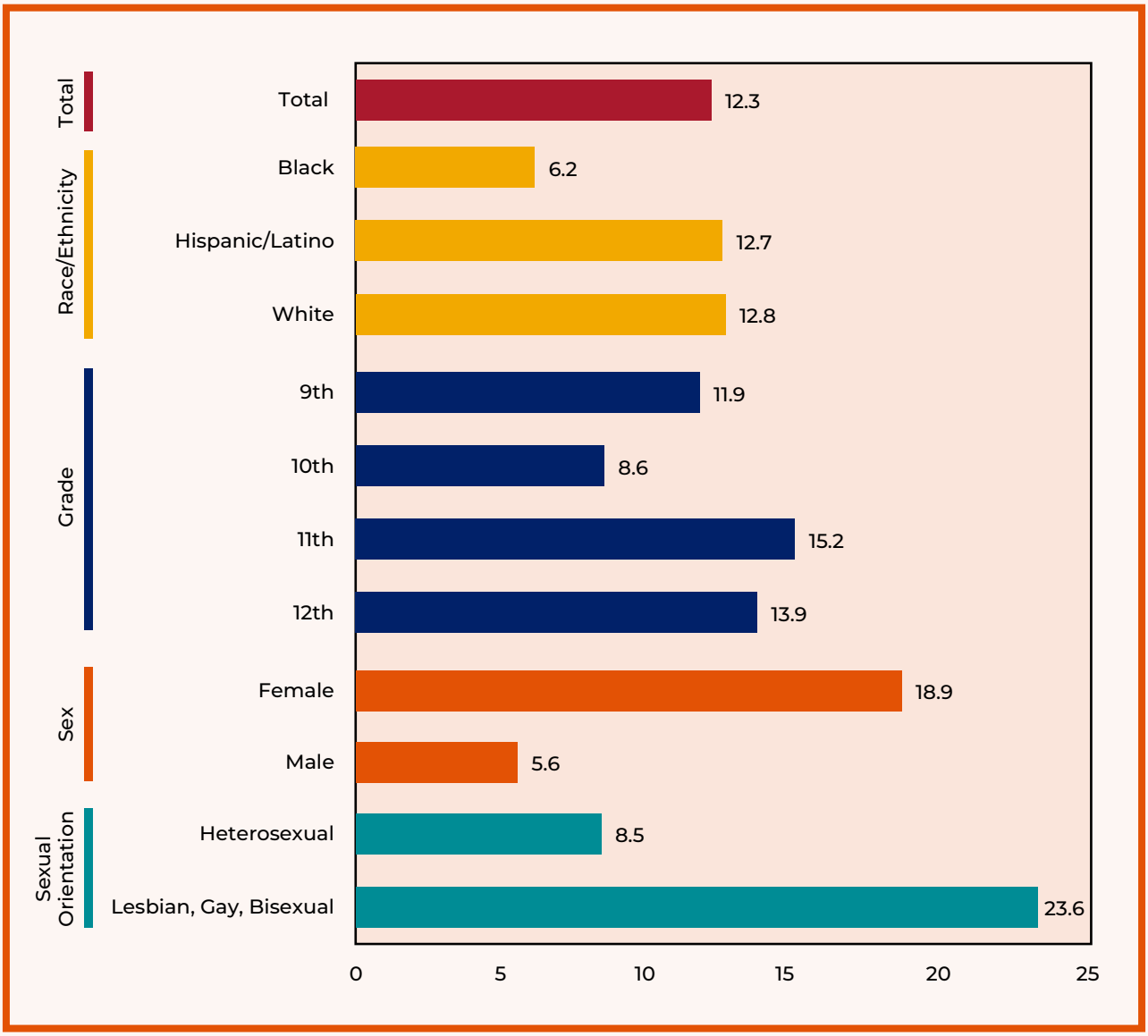


	2017	2019	2021
Black	15.2	26.5	17.1
Hispanic/Latino	21.0	39.4	19.8
White	19.6	22.8	15.6

Forced to Have Sexual Intercourse

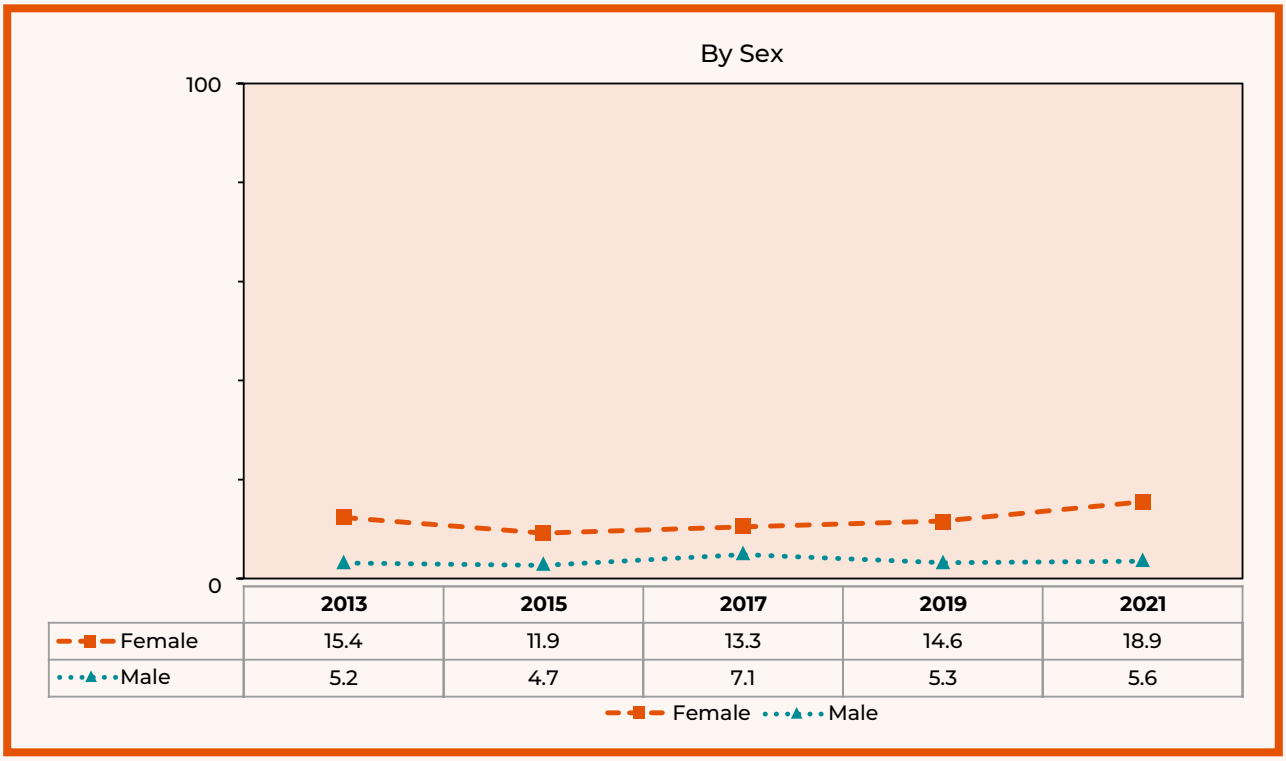
Female students were more likely to have been forced to have sexual intercourse than male students. White students were more likely than Black students. Students who identified as lesbian, gay or bisexual had a higher prevalence than heterosexual students.

Percentage of High School Students who **Were Ever Physically Forced to Have Sexual Intercourse,*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

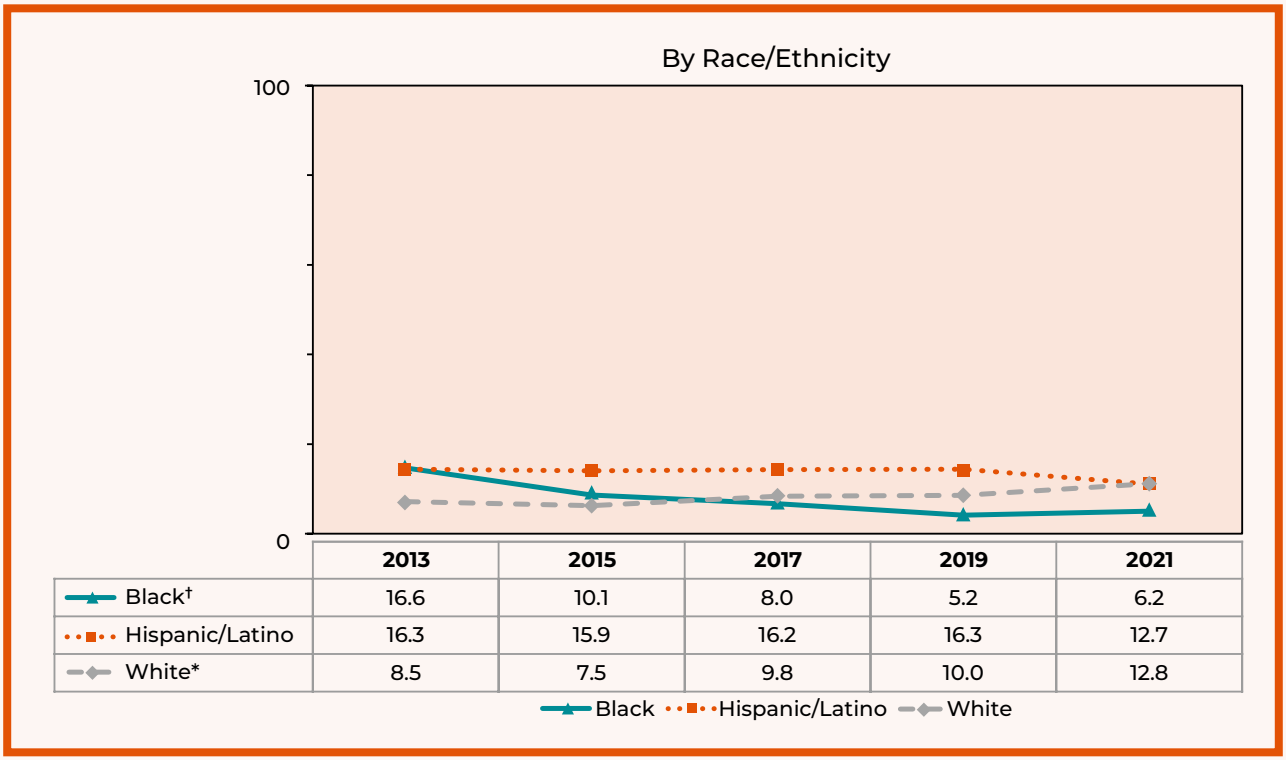


*When they did not want to.
†F > M; W > B; LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Were Ever Physically Forced to Have Sexual Intercourse,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	15.4	11.9	13.3	14.6	18.9
Male	5.2	4.7	7.1	5.3	5.6



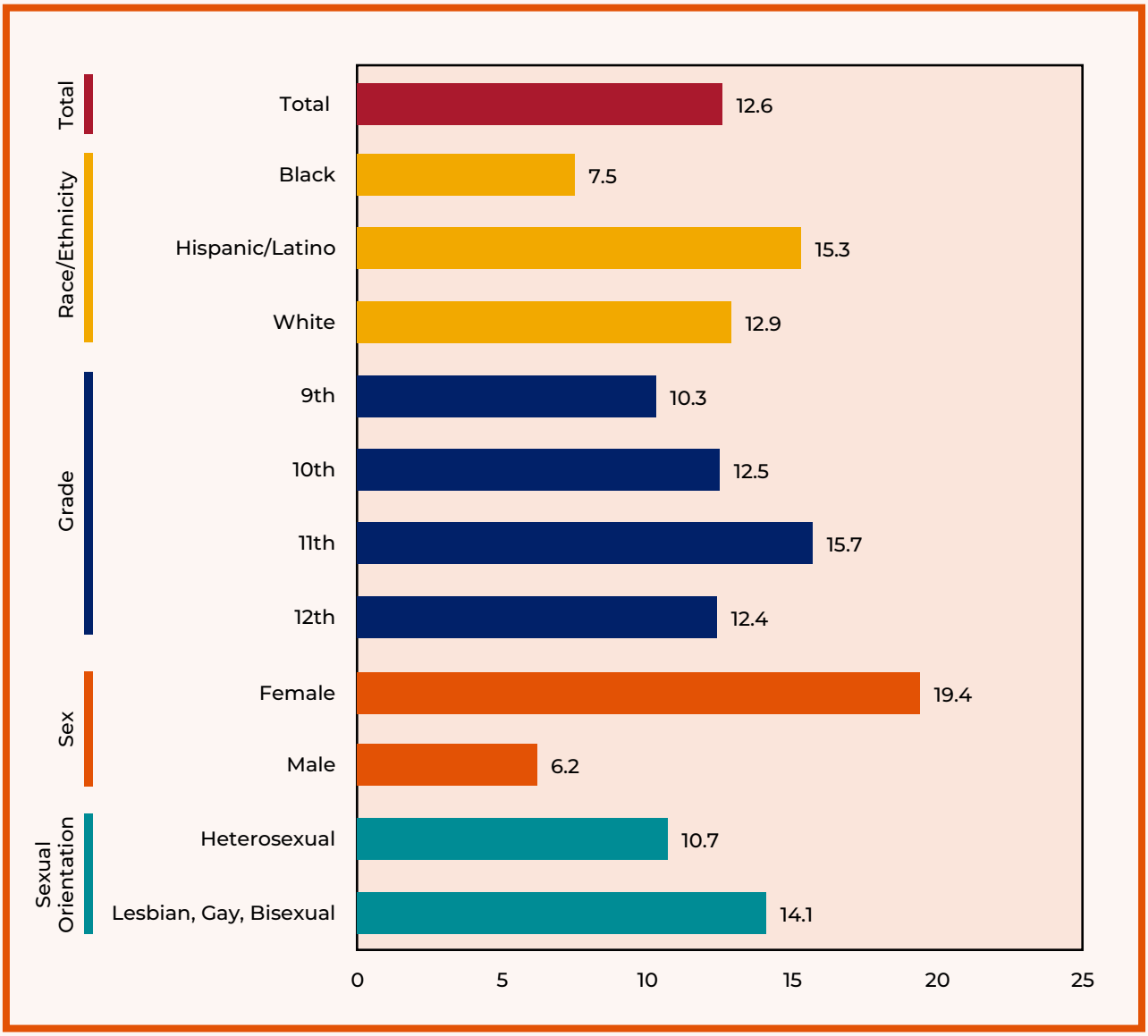
	2013	2015	2017	2019	2021
Black†	16.6	10.1	8.0	5.2	6.2
Hispanic/Latino	16.3	15.9	16.2	16.3	12.7
White*	8.5	7.5	9.8	10.0	12.8

†Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Experienced Sexual Violence

Female students were more likely to have experienced sexual violence than male students.

Percentage of High School Students who **Experienced Sexual Violence*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

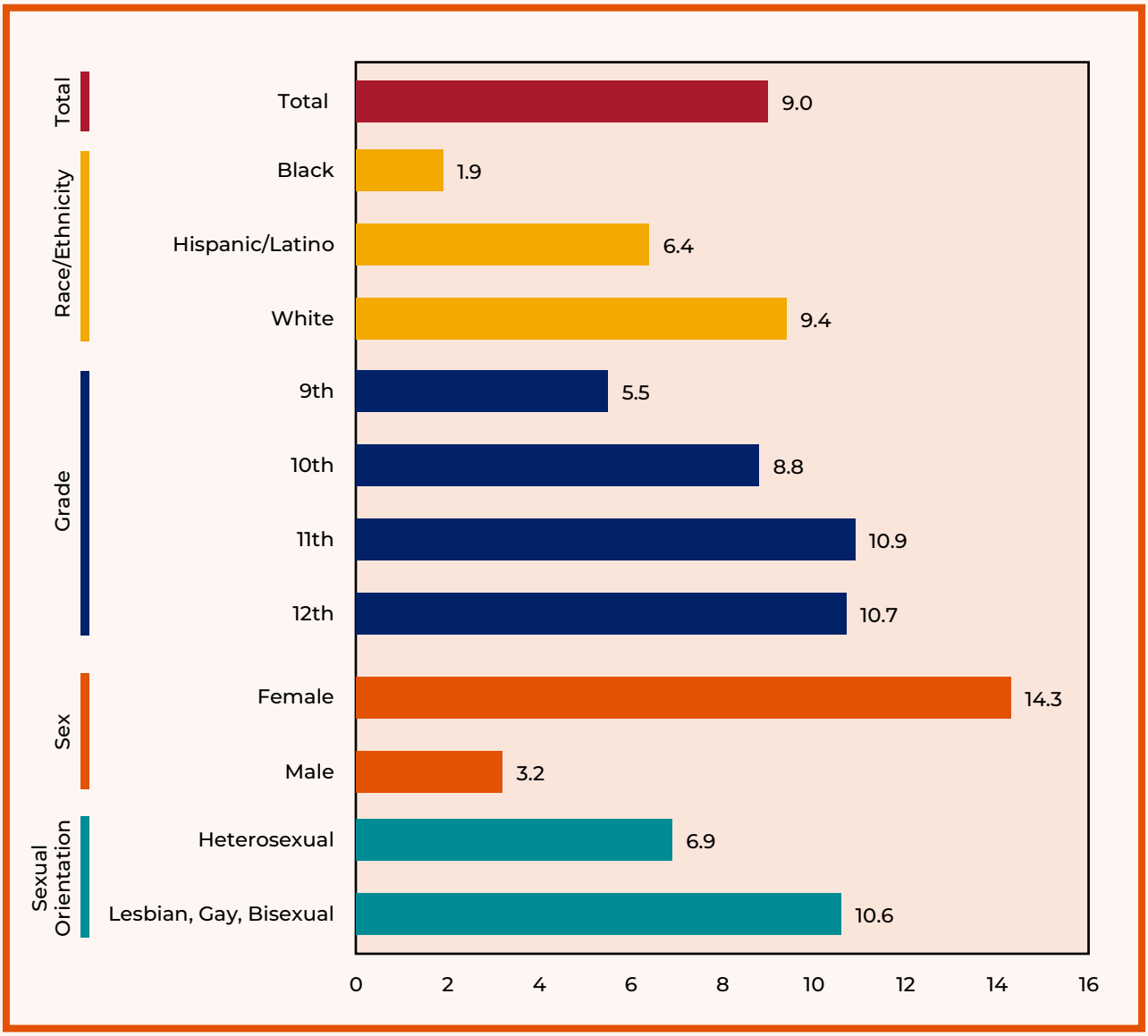


*Such as kissing, touching or being physically forced to have sexual intercourse when they did not want to at least once in the 12 months before the survey.
†F > M (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Experienced Sexual Dating Violence

Female students were more likely to experience sexual dating violence than male students. Hispanic and white students had a higher prevalence than Black students.

Percentage of High School Students who **Were Forced to do Sexual Things by Someone They Were Dating or Going Out With*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

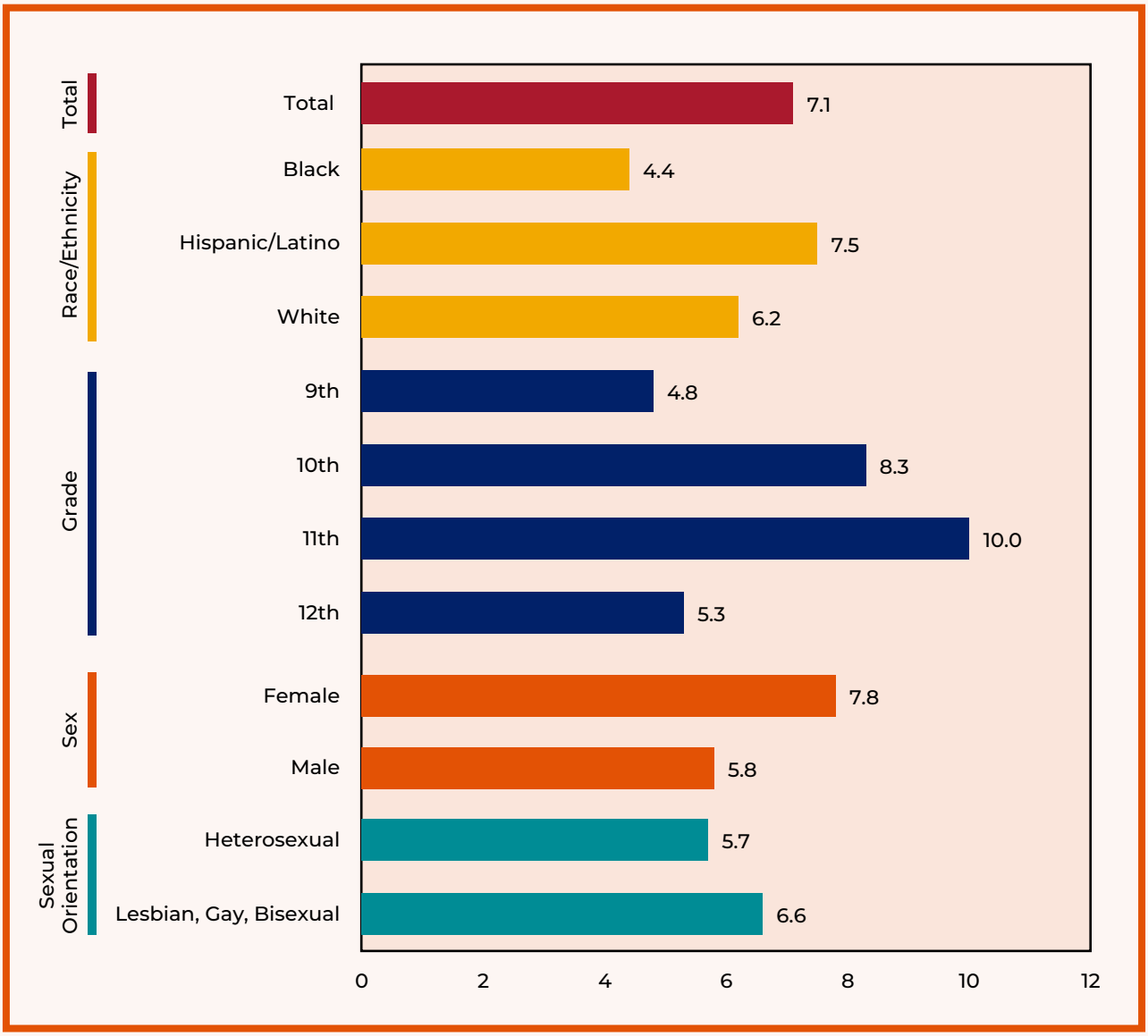


*Such as kissing, touching or being physically forced to have sexual intercourse when they did not want to at least once in the 12 months before the survey (among students who dated or went out with someone in the 12 months before the survey).
†F > M; H > B, W > B (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Experienced Physical Dating Violence

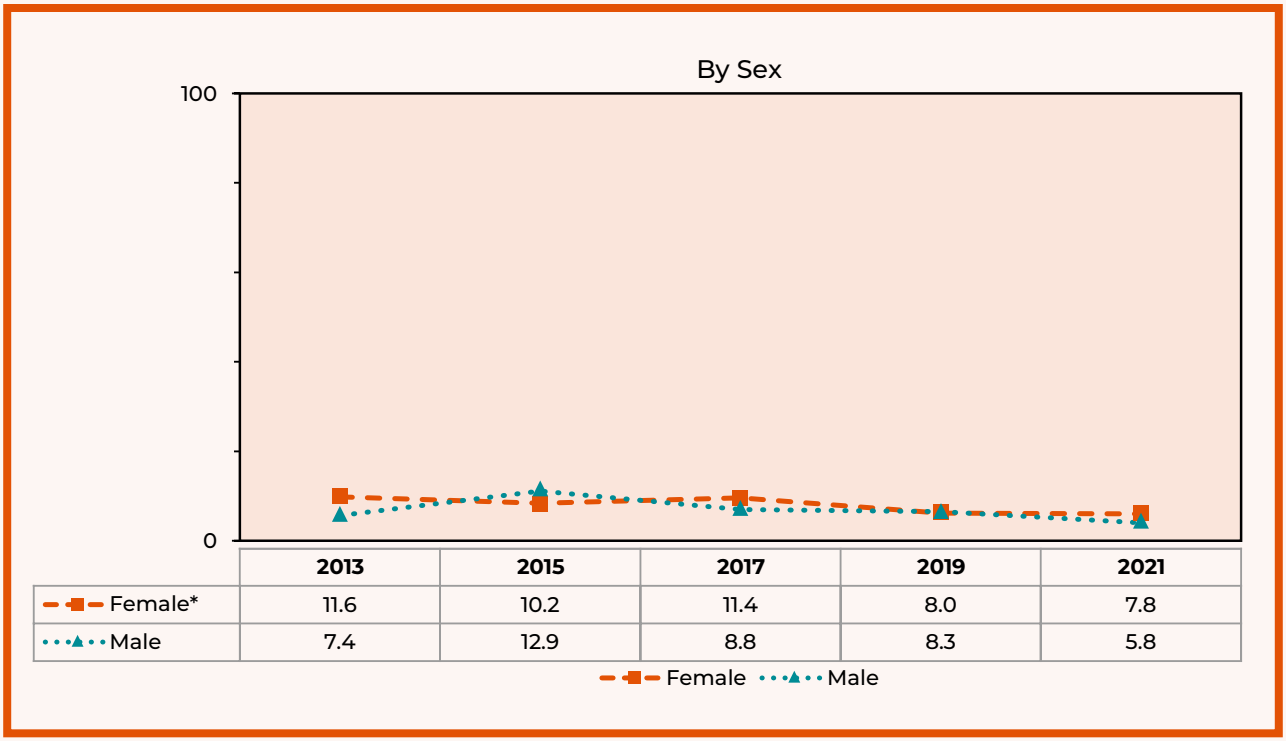
There were no significant differences in experiencing physical dating violence when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Experienced Physical Dating Violence*** in the Past Year, by Demographic Characteristics, Missouri, YRBS, 2021



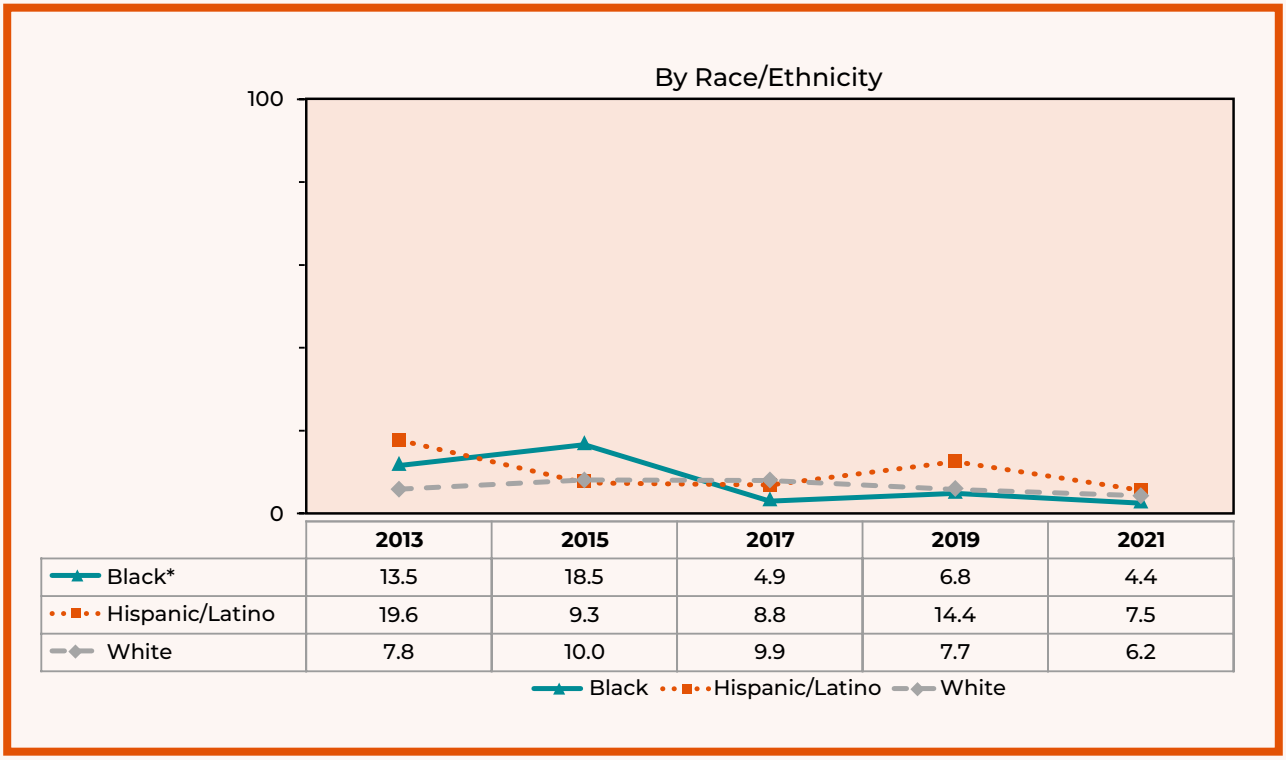
*Being purposely, physically hurt by someone they were dating or going out with, such as being hit, slammed into something, or injured with an object or weapon at least once in the 12 months before the survey (among students who dated or went out with someone in the 12 months before the survey).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Experienced Physical Dating Violence,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	11.6	10.2	11.4	8.0	7.8
Male	7.4	12.9	8.8	8.3	5.8

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



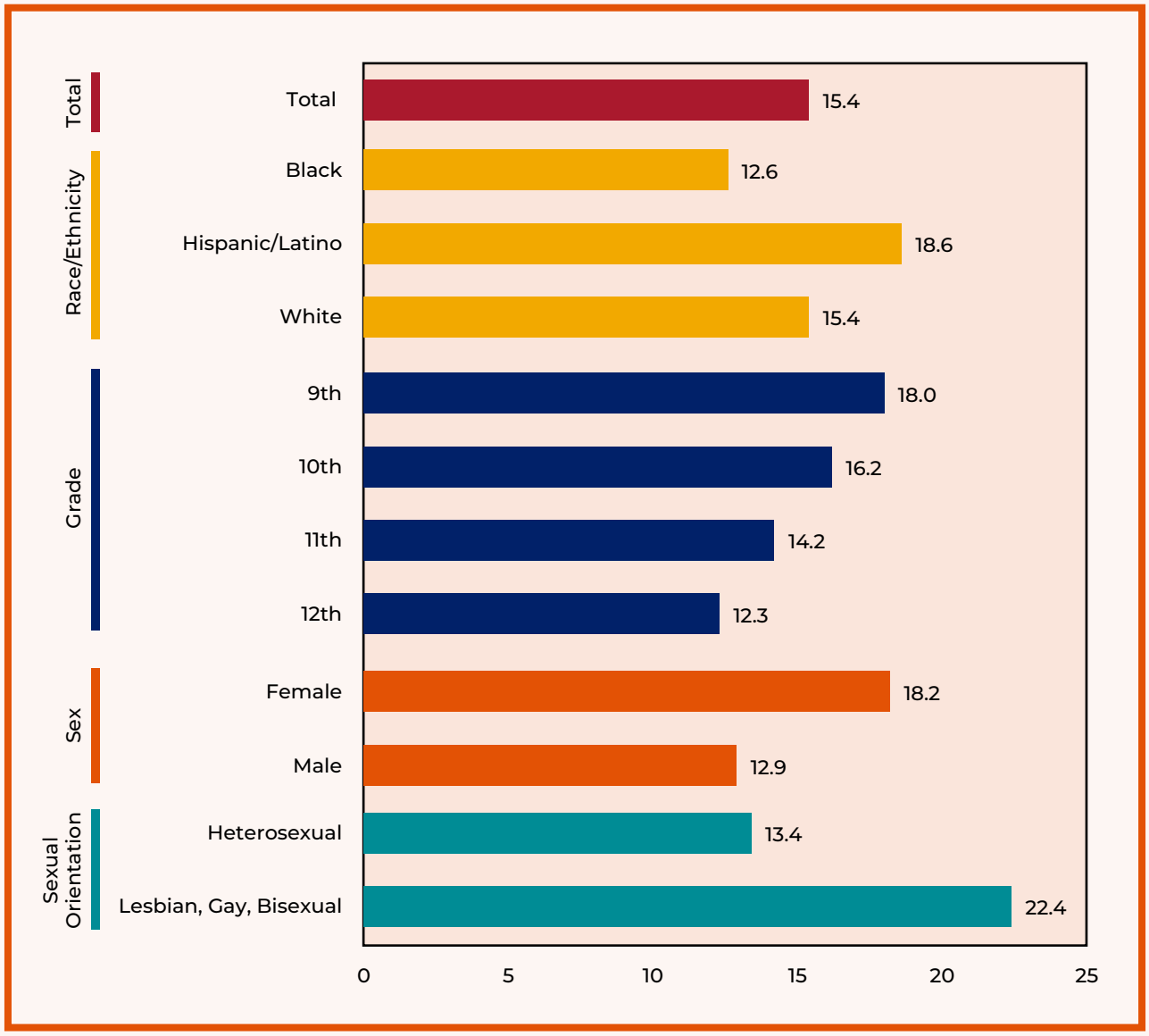
	2013	2015	2017	2019	2021
Black*	13.5	18.5	4.9	6.8	4.4
Hispanic/Latino	19.6	9.3	8.8	14.4	7.5
White	7.8	10.0	9.9	7.7	6.2

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Bullied on School Property

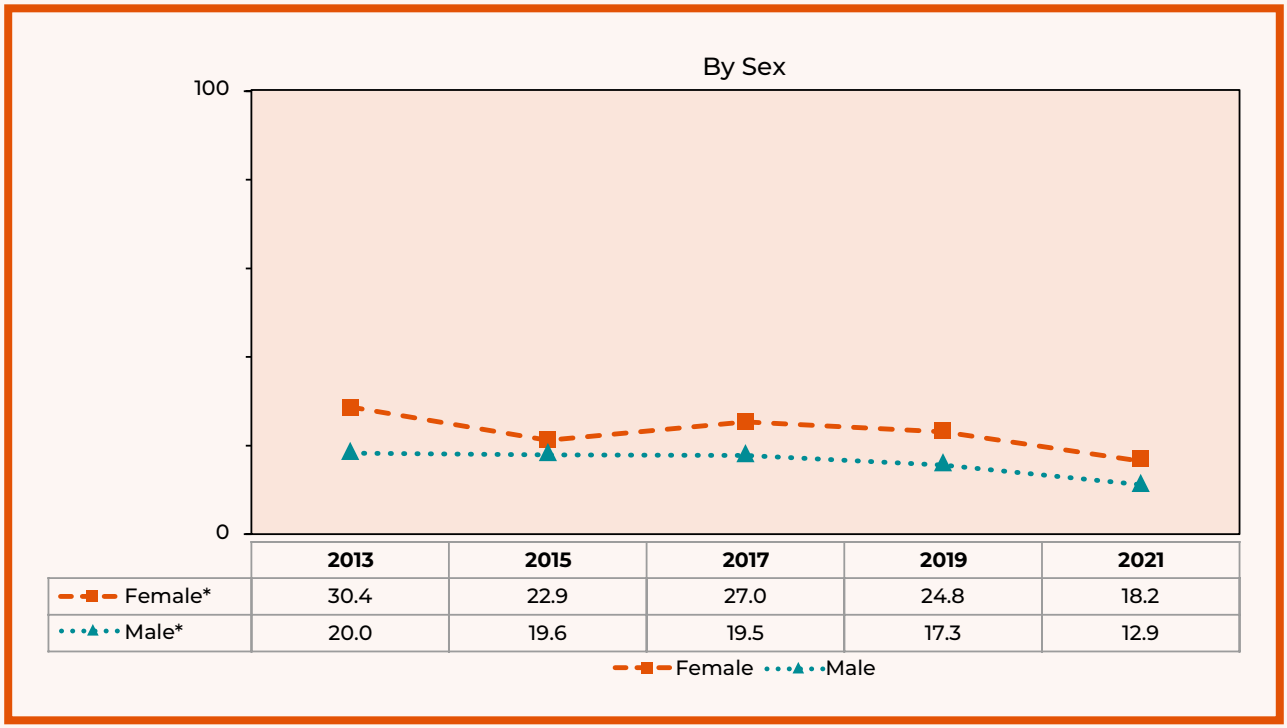
Female students were more likely to be bullied on school property than male students.

Percentage of High School Students who **Were Bullied on School Property** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



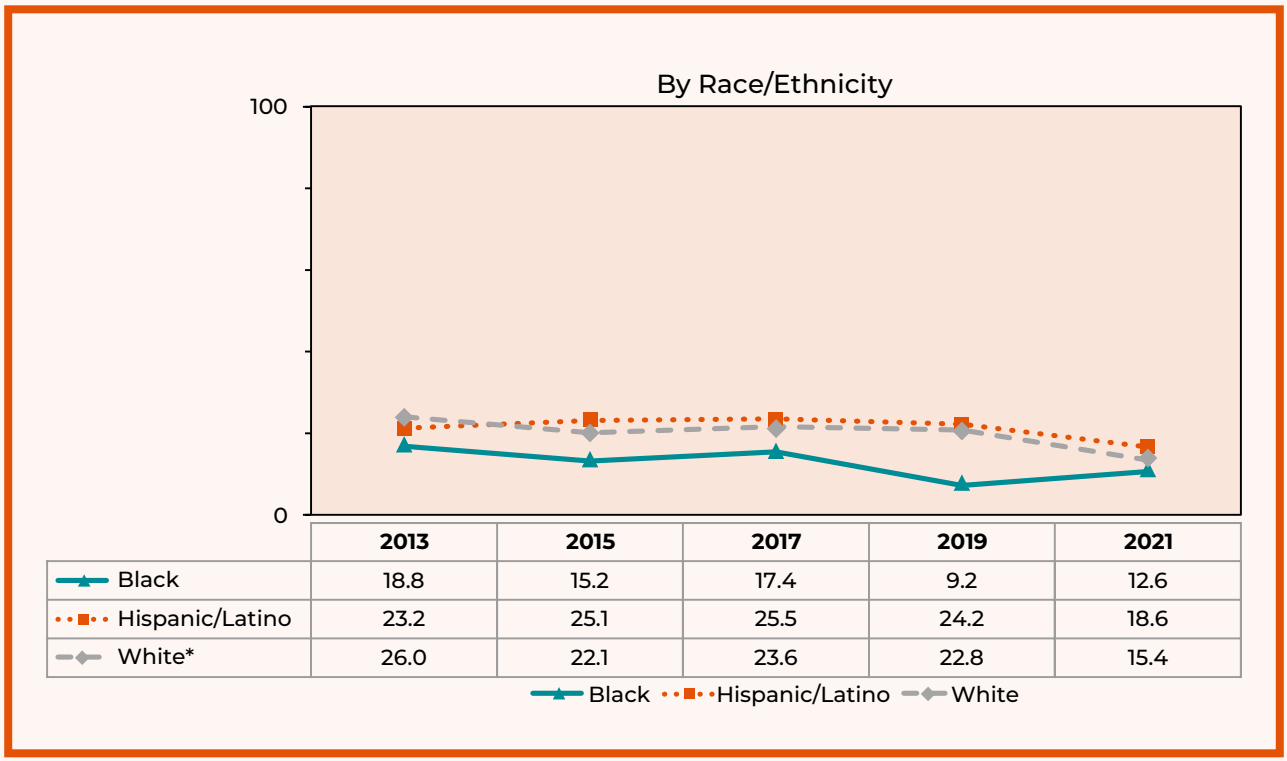
†F > M (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Were Bullied on School Property** in the Past Year, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	30.4	22.9	27.0	24.8	18.2
Male*	20.0	19.6	19.5	17.3	12.9

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



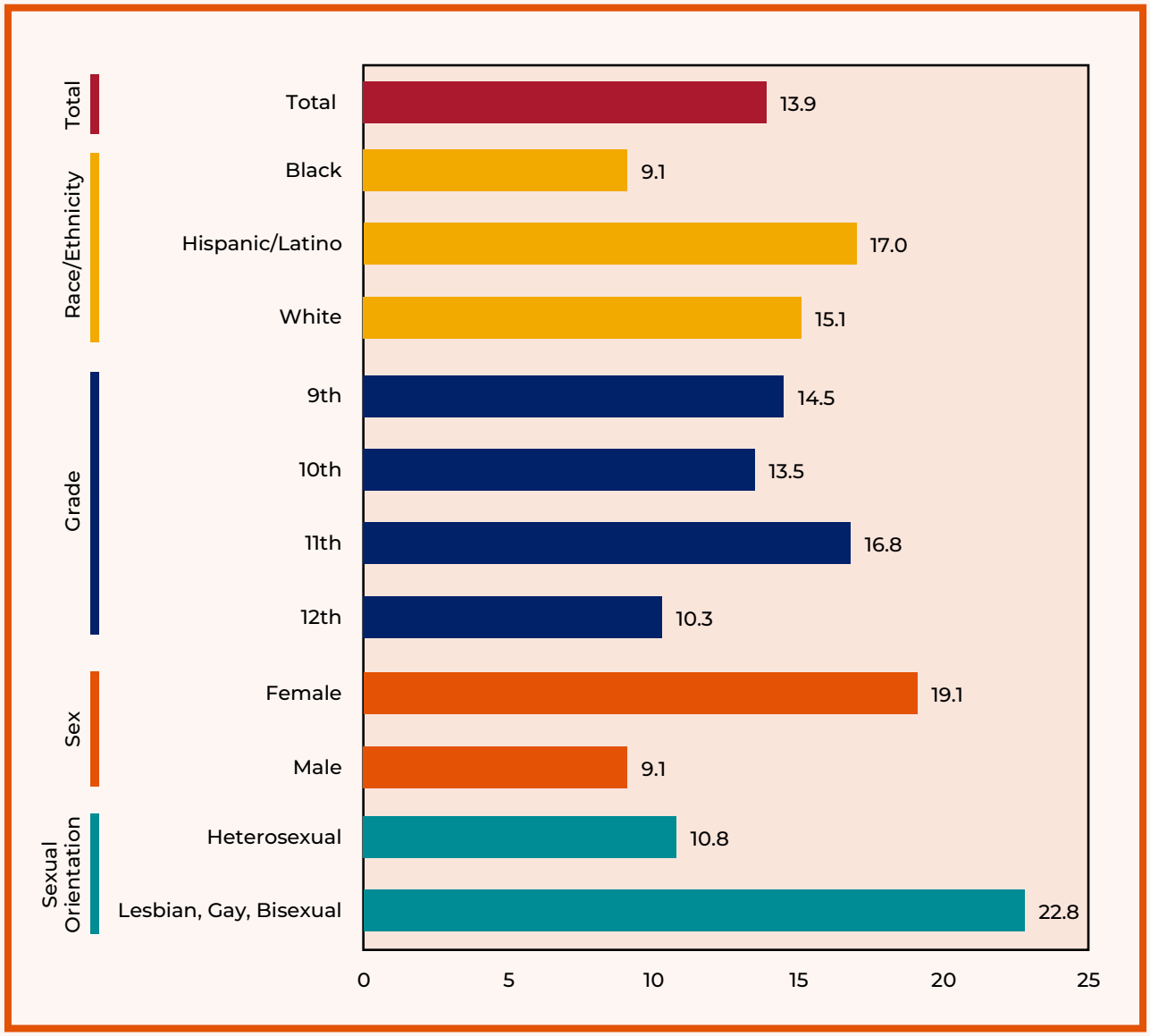
	2013	2015	2017	2019	2021
Black	18.8	15.2	17.4	9.2	12.6
Hispanic/Latino	23.2	25.1	25.5	24.2	18.6
White*	26.0	22.1	23.6	22.8	15.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Electronically Bullied

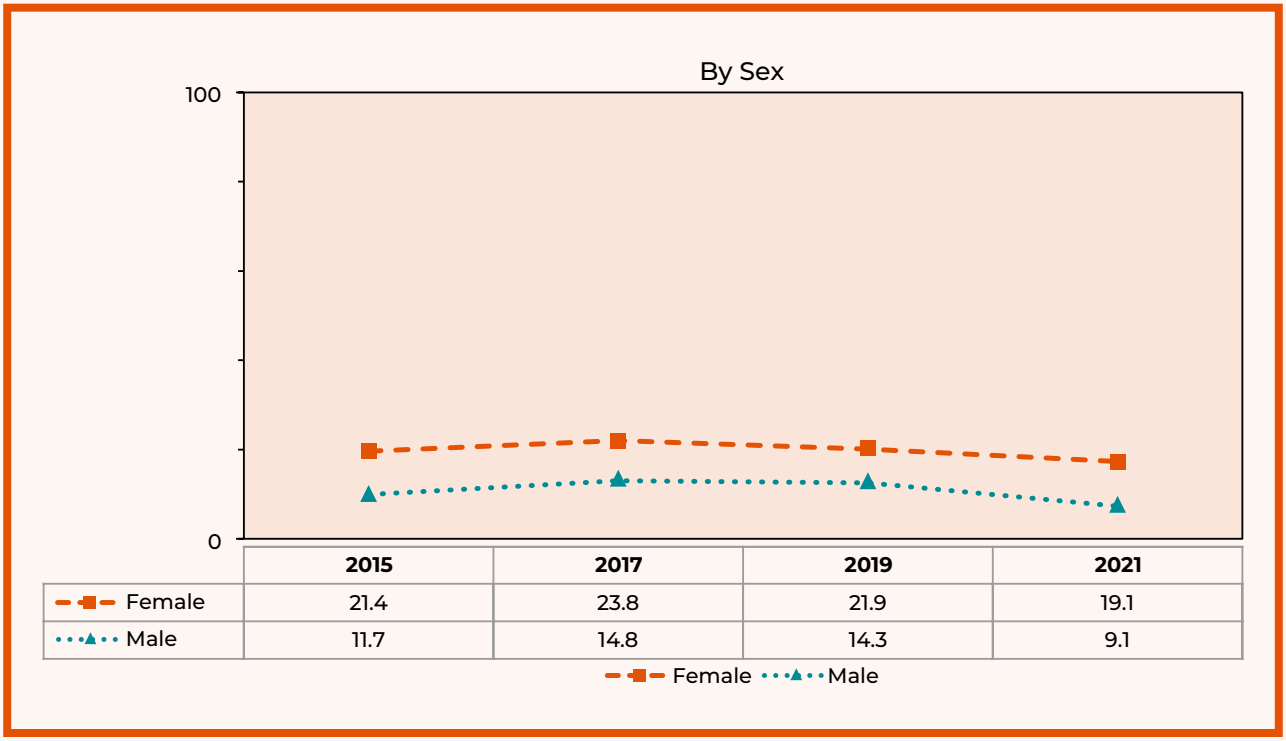
White students were more likely to be electronically bullied than Black students. Female students experienced electronic bullying more than male students. Students who identified as lesbian, gay or bisexual experienced cyberbullying more than heterosexual students.

Percentage of High School Students who **Were Electronically Bullied*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

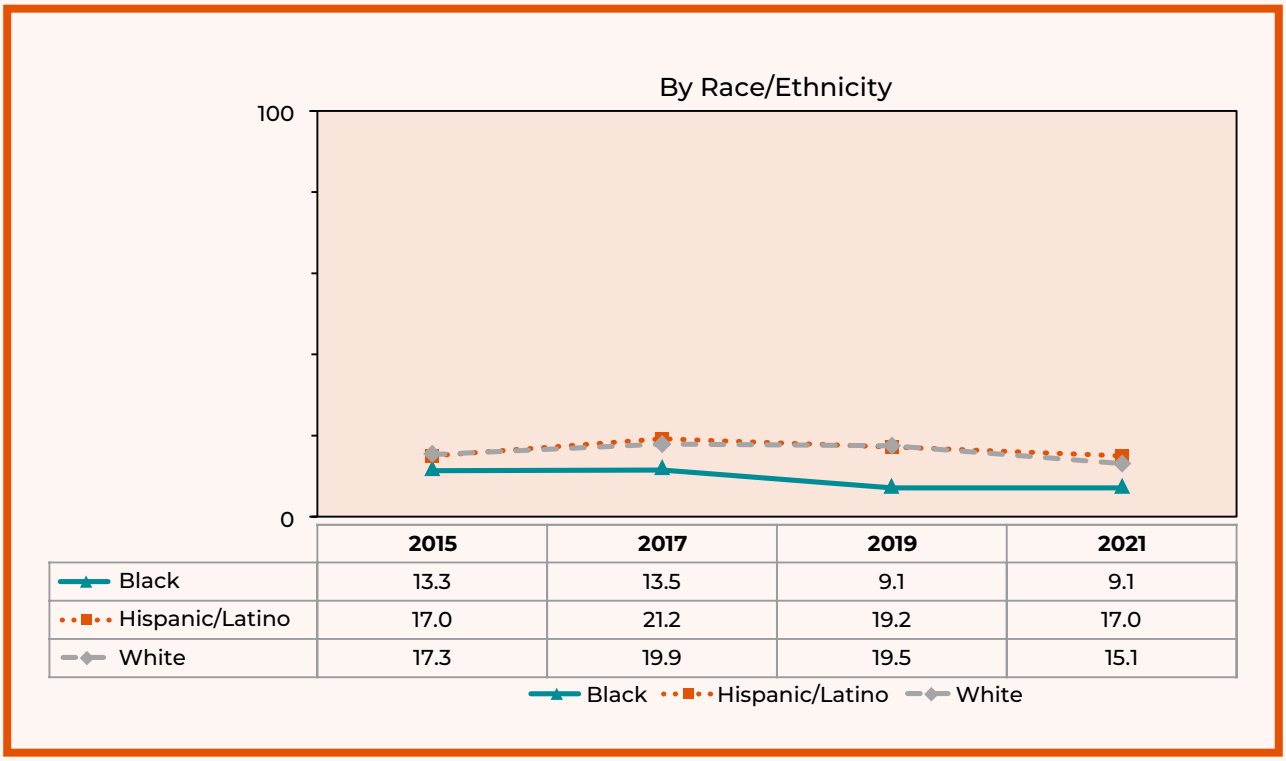


*Such as being bullied through text, Instagram, Facebook or other social media in the 12 months before the survey.
†F > M; W > B; LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Were Electronically Bullied** in the Past Year, Missouri, YRBS, 2015-2021

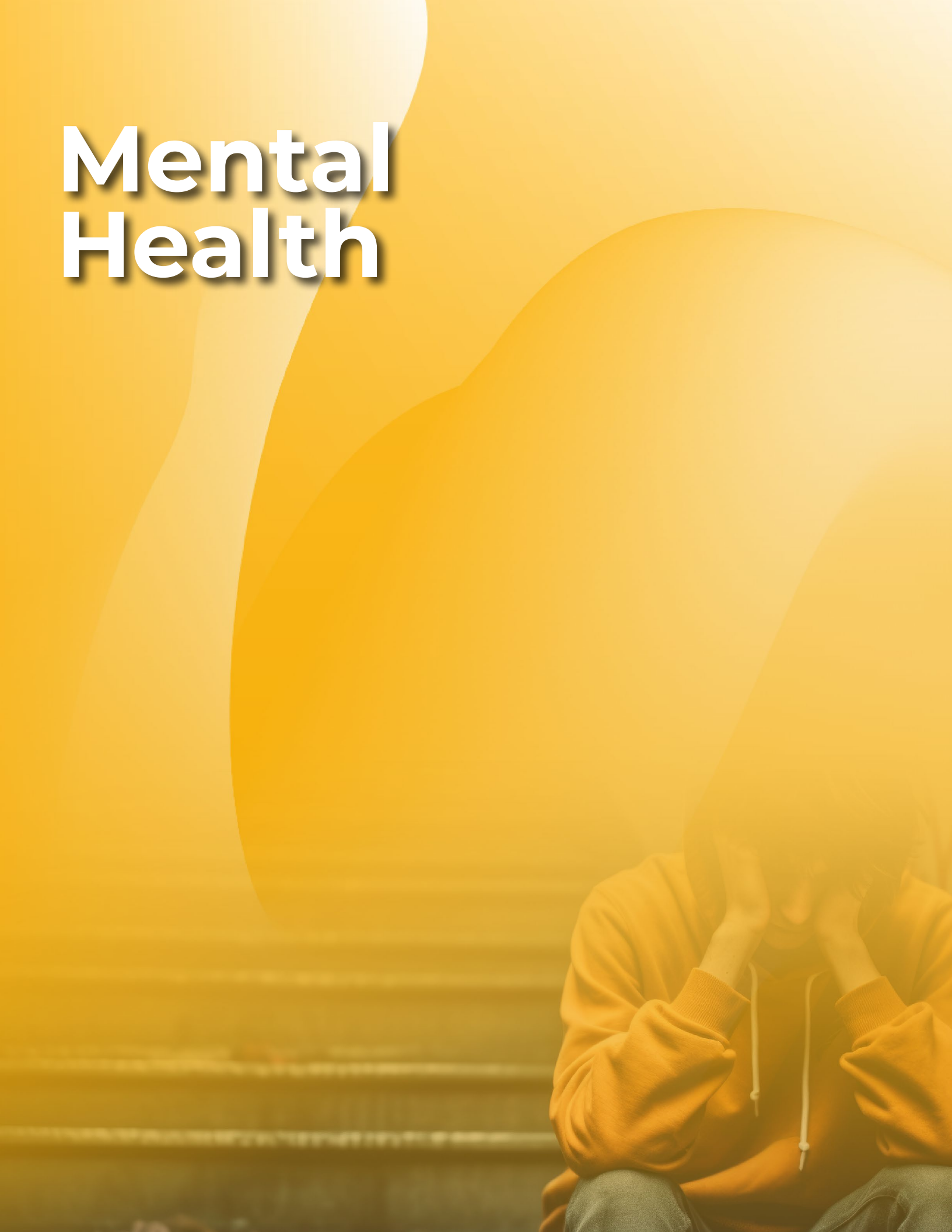


	2015	2017	2019	2021
Female	21.4	23.8	21.9	19.1
Male	11.7	14.8	14.3	9.1



	2015	2017	2019	2021
Black	13.3	13.5	9.1	9.1
Hispanic/Latino	17.0	21.2	19.2	17.0
White	17.3	19.9	19.5	15.1

Mental Health



AT-A-GLANCE:
Mental Health

Adolescence is a distinctive and transformative period marked by various physical, emotional and social changes. During this phase, adolescents may encounter circumstances such as poverty, abuse or violence, which can render them susceptible to mental health issues.[10] These problems can affect multiple aspects of a teenager's life, leading to academic struggles, poor decision-making abilities and compromised physical well-being.[11]

Poor mental health in youth often coincides with other health-related risks and behavioral issues. This includes an increased likelihood of engaging in drug use, experiencing violence and engaging in risky sexual behaviors that can contribute to the transmission of HIV, STDs and unintended pregnancies.[12] Some adolescents face a higher risk of developing mental health conditions due to factors such as their living conditions, societal stigma, discrimination or exclusion, or limited access to quality support and services.[10]

The YRBS assessed mental health using specific questions. One question focused on persistent feelings of sadness or hopelessness that hinder students' ability to engage in their daily activities, while another examined the presence of poor mental health within the past 30 days.[11] The YRBS incorporated four questions pertaining to suicidal thoughts and behaviors, which encompassed seriously considering suicide, developing a suicide plan and attempting suicide.[12]

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Experienced persistent feeling of hopelessness	27.3	27.5	31.3	32.7	32.5	⬢
Experienced poor mental health	-	-	-	67.5	73.7	⬢
Most of the time or always got the help they needed	-	26.0	26.0	21.7	22.4	⬢
Seriously considered attempting suicide	14.2	16.2	20.9	17.4	20.4	⬢
Made a suicide plan	12.1	13.4	15.5	13.6	16.8	◆
Attempted suicide	6.9	9.8	8.6	8.3	8.7	◆
Purposely hurt themselves	-	-	-	-	22.2	-

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

⬢ In wrong direction
◆ No change
⛉ In right direction

SUMMARY OF RESULTS:
Mental Health

The majority of indicators of poor mental health and suicidal thoughts and behaviors increased from 2011 to 2021. The percentage of students who experienced persistent feelings of sadness or hopelessness or who seriously considered attempting suicide increased. The percentage of students who made a plan to commit suicide or attempted suicide did not change.

In 2021

One in five high school students seriously considered suicide in the last twelve months. 9% of high school students attempted suicide and about three percent of students who attempted suicide had to be treated by a doctor for an injury, poisoning or overdose. 22% of high school students did something to purposely hurt themselves, such as cutting or burning themselves.

42% of female students felt so persistently sad or hopeless that they stopped doing some of their usual activities. This was significantly greater than male students (24%).

Trends

The percentage of high school students who felt sad or hopeless increased significantly over the last decade from 27% to 33%. In addition, the percentage of students who seriously considered attempting suicide increased from 14% to 20% from 2013 to 2021.

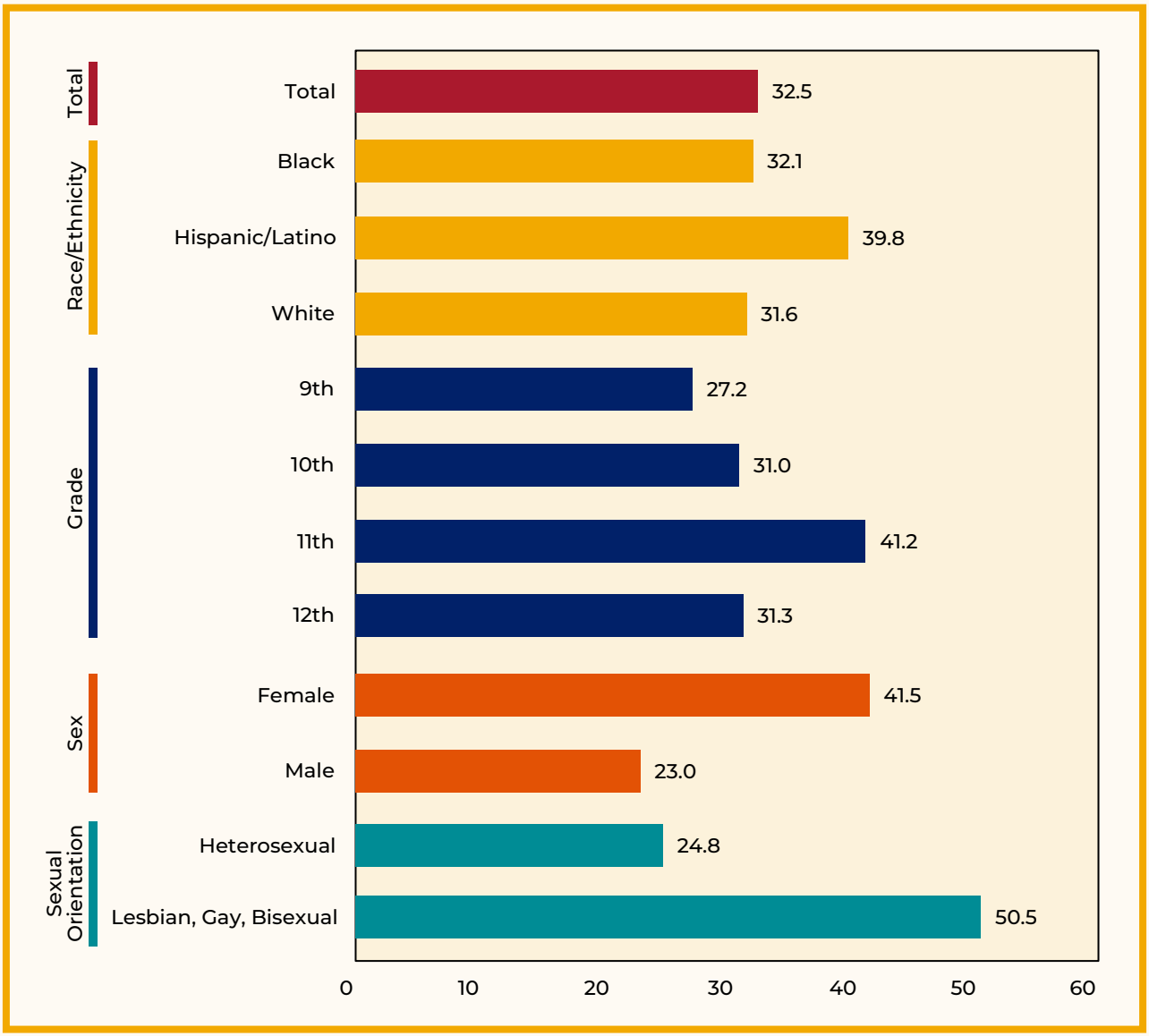
National Comparison

The percentage of Missouri high school students who felt hopeless or sad was less than the national average (33% vs. 42%). The Missouri and national percentages for students who considered suicide, made a plan and attempted suicide were similar (20% vs. 22%; 17% vs. 18%; 9% vs. 10%).

Persistent Feelings of Sadness or Hopelessness

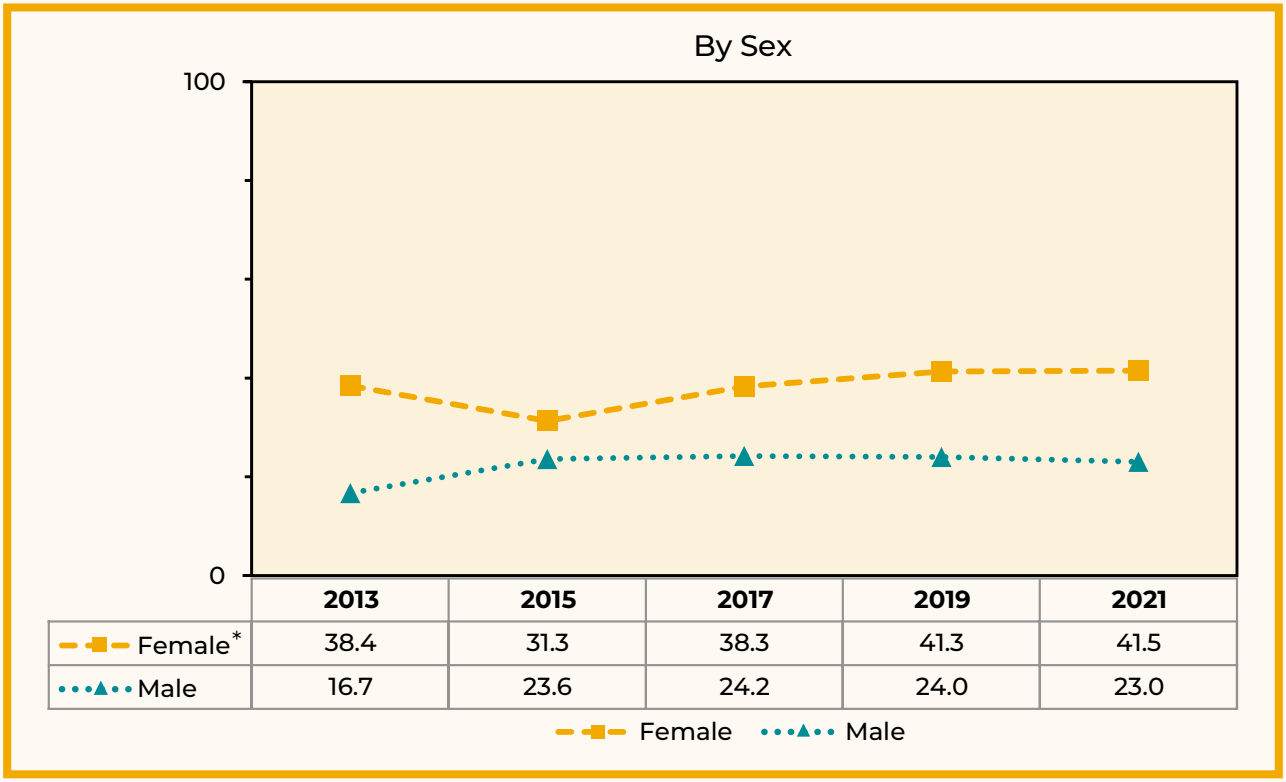
The prevalence for female students was higher than for male students. The prevalence for students in 11th grade was higher than for students in 9th grade.

Percentage of High School Students who **Experienced Persistent Feelings of Sadness or Hopelessness*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



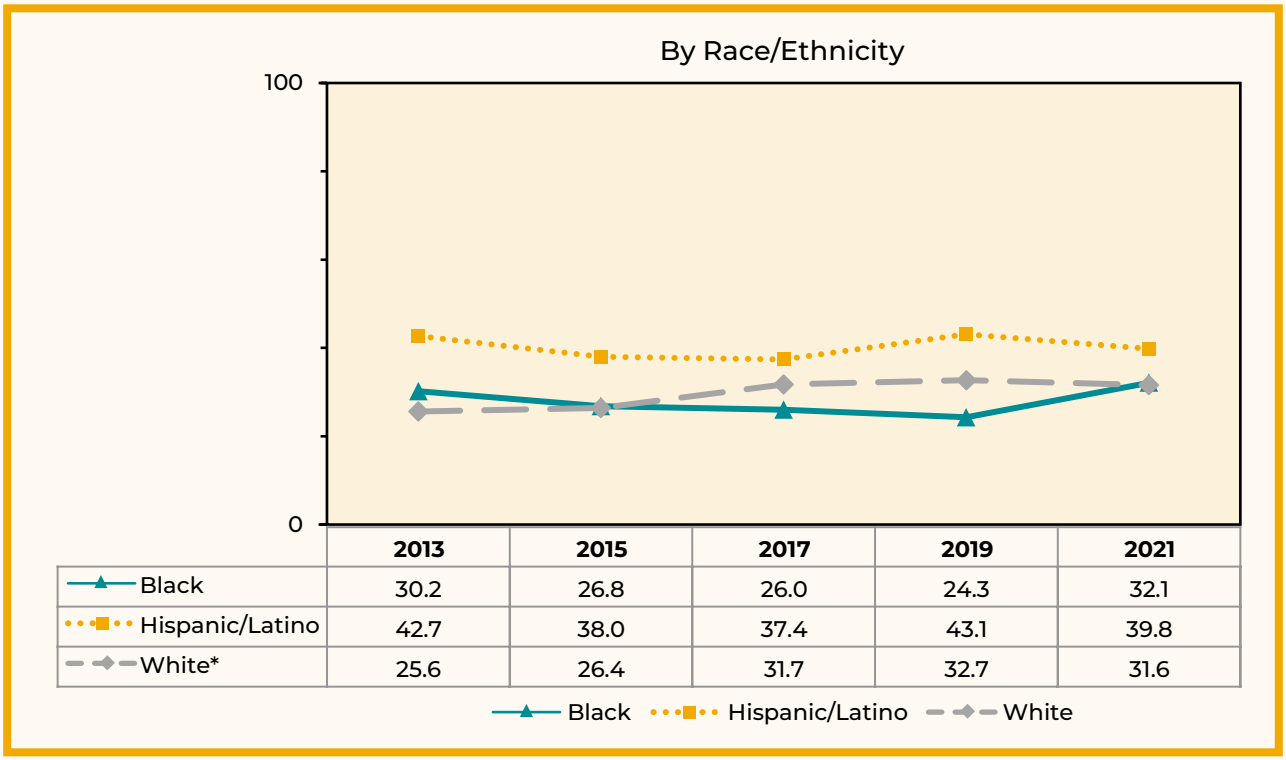
*Almost every day for ≥ 2 weeks in a row so that they stopped doing some usual activities at any point in the 12 months before the survey.
†F > M; 11th > 9th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who **Experienced Persistent Feelings of Sadness or Hopelessness** in the Past Year, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	38.4	31.3	38.3	41.3	41.5
Male	16.7	23.6	24.2	24.0	23.0

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



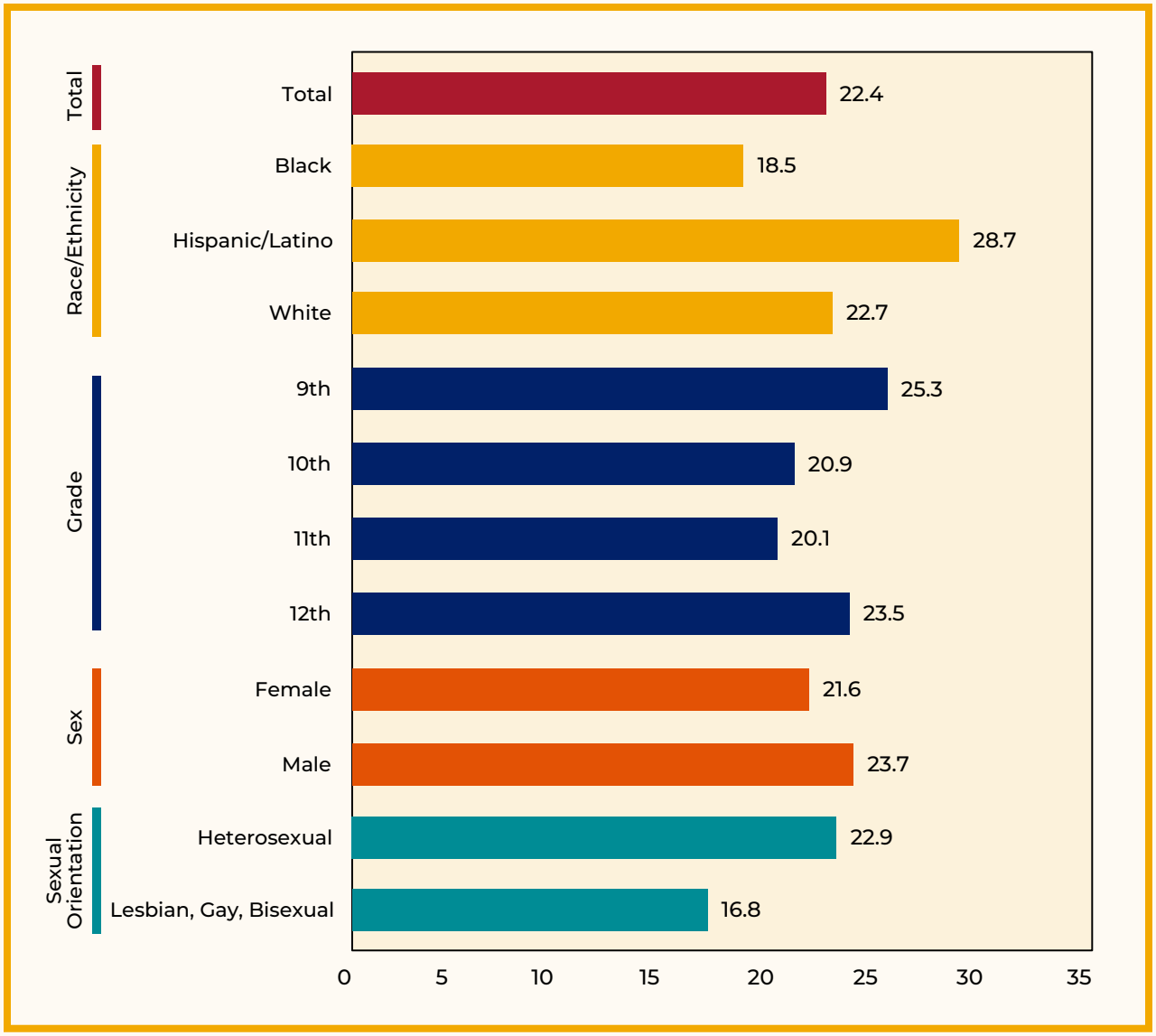
	2013	2015	2017	2019	2021
Black	30.2	26.8	26.0	24.3	32.1
Hispanic/Latino	42.7	38.0	37.4	43.1	39.8
White*	25.6	26.4	31.7	32.7	31.6

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Get the Kind of Help They Need

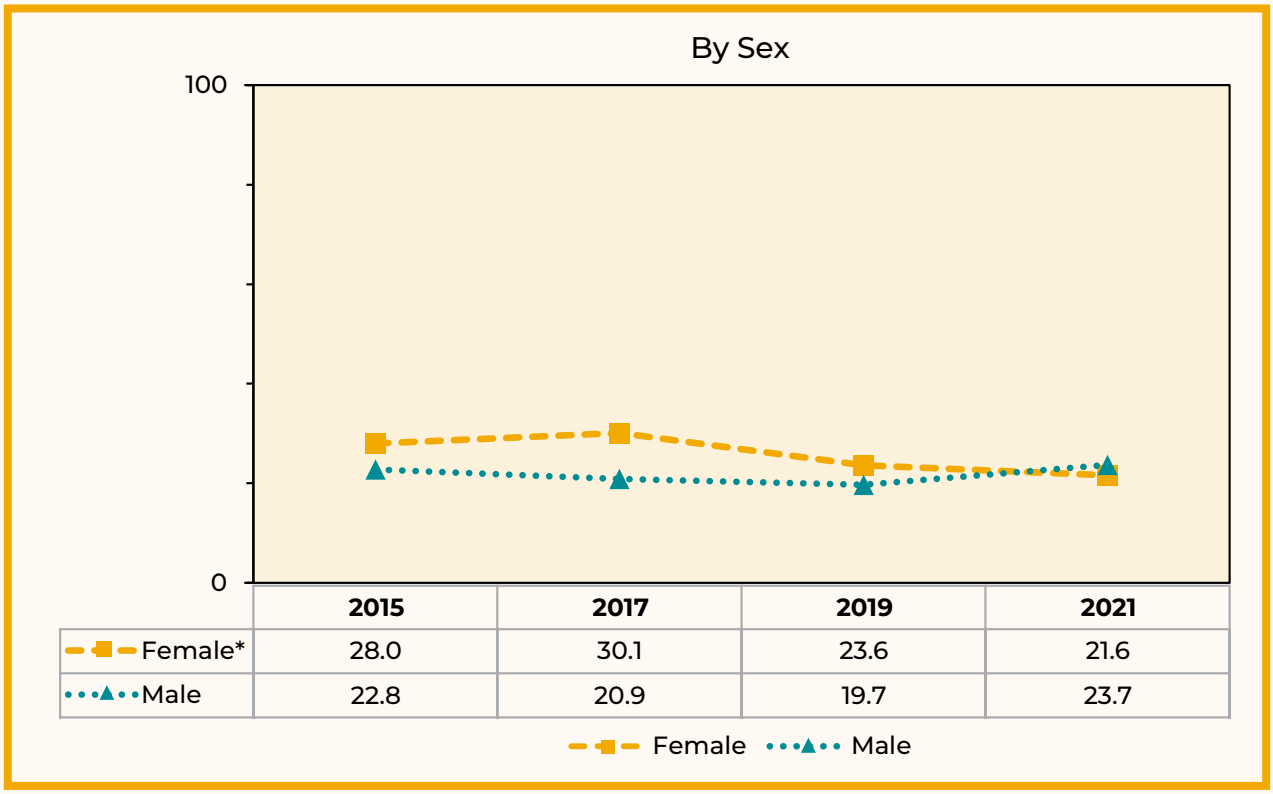
There were no significant differences in riding with an impaired driver when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who Most of the Time or Always Get the Kind of Help They Need,* by Demographic Characteristics,† Missouri, YRBS, 2021

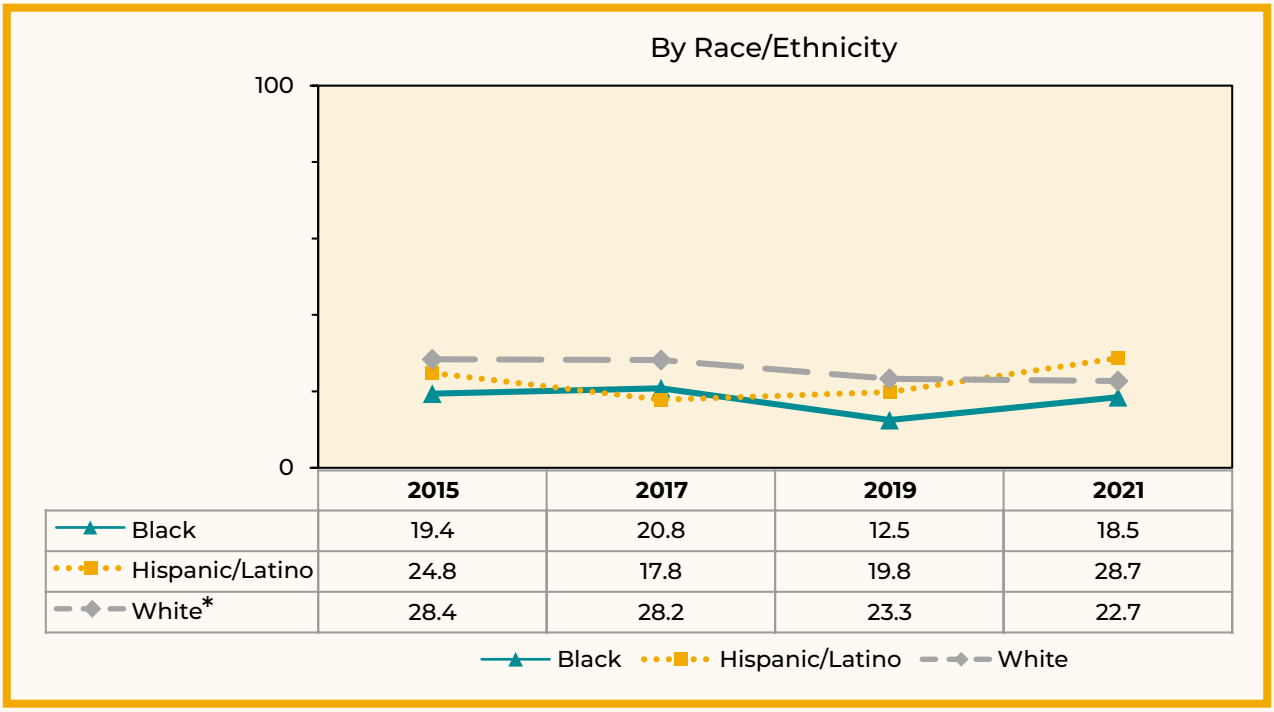


*Among students who reported having felt sad, empty, hopeless, angry or anxious.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in the Percentage of High School Students who Most of the Time or Always **Get the Kind of Help They Need**, Missouri, YRBS, 2015–2021



	2015	2017	2019	2021
Female*	28.0	30.1	23.6	21.6
Male	22.8	20.9	19.7	23.7



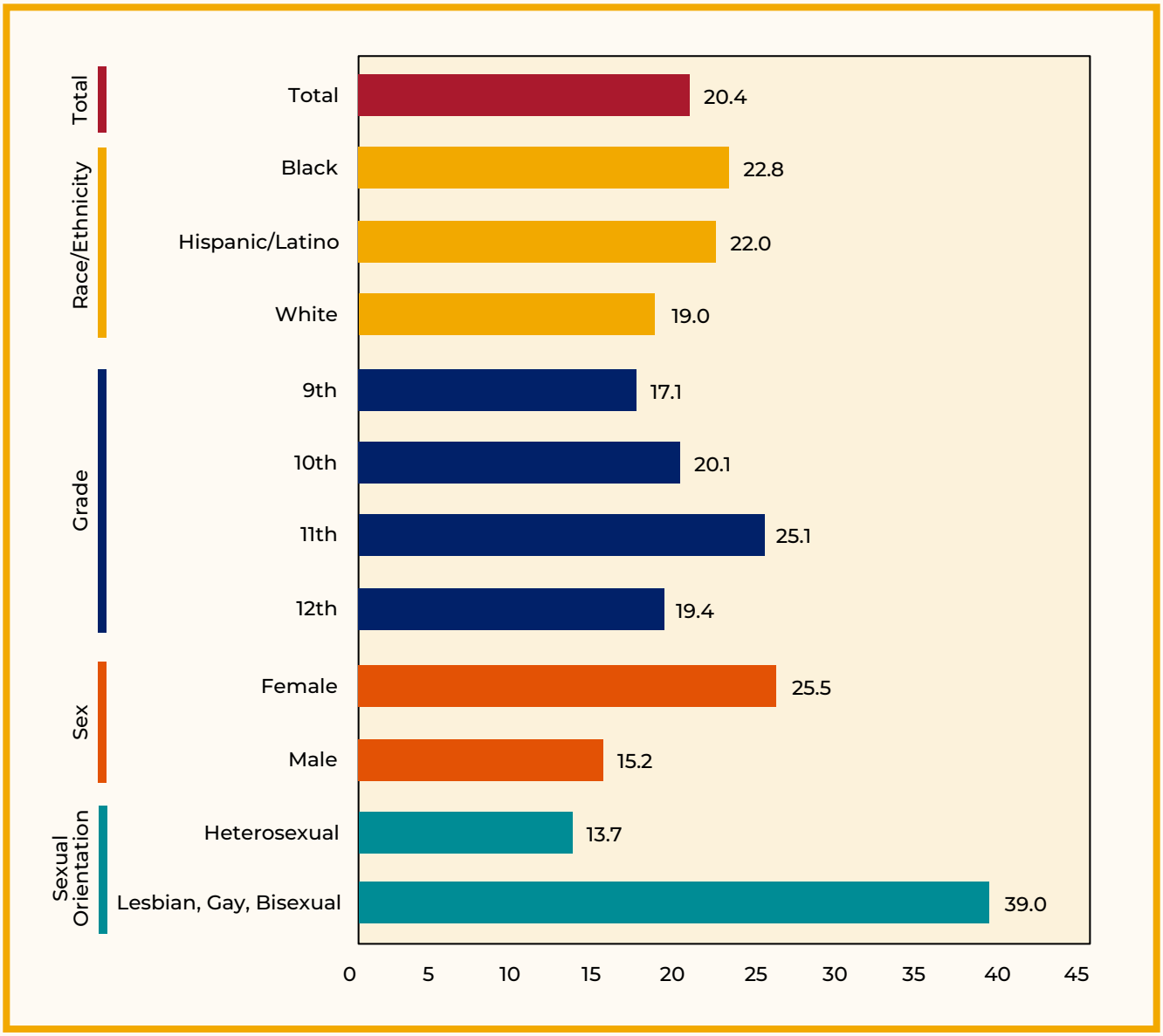
	2015	2017	2019	2021
Black	19.4	20.8	12.5	18.5
Hispanic/Latino	24.8	17.8	19.8	28.7
White*	28.4	28.2	23.3	22.7

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Seriously Considered Attempting Suicide

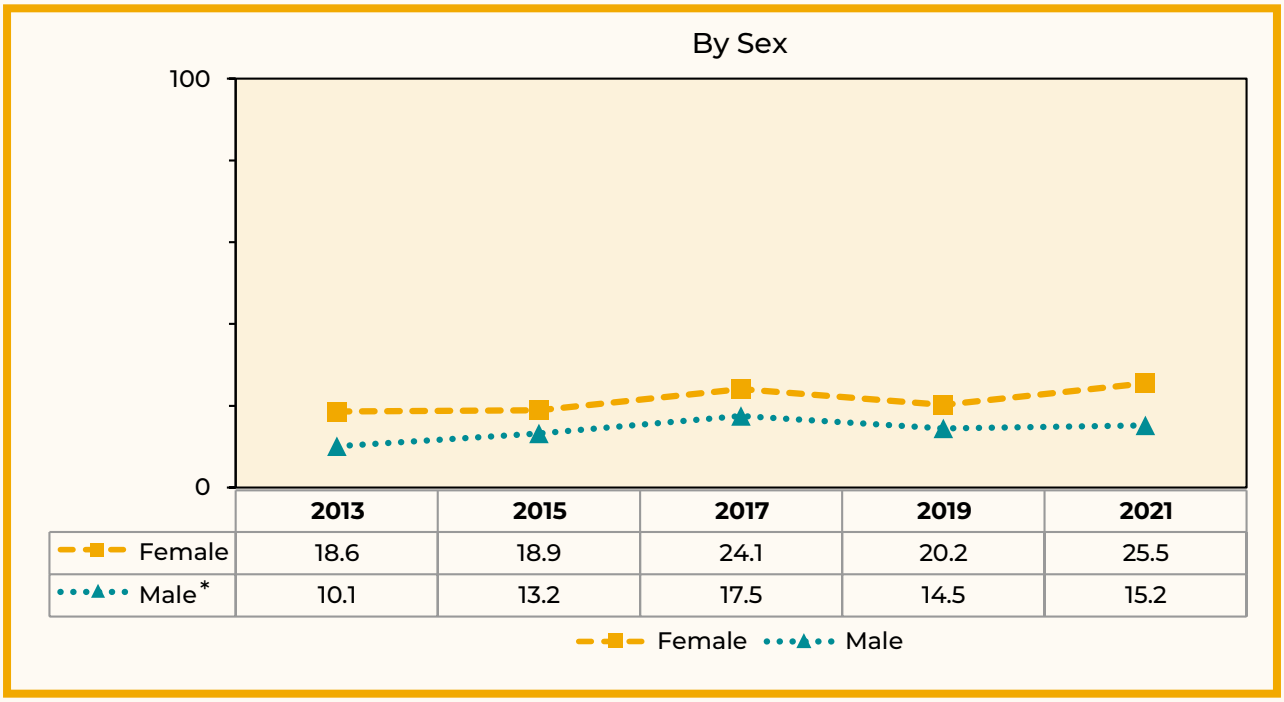
The prevalence for female students was higher than for male students. The prevalence for students in 11th grade was higher than for students in 9th grade. Students who identified as lesbian, gay or bisexual had a higher prevalence than heterosexual students.

Percentage of Students who Seriously **Considered Attempting Suicide*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



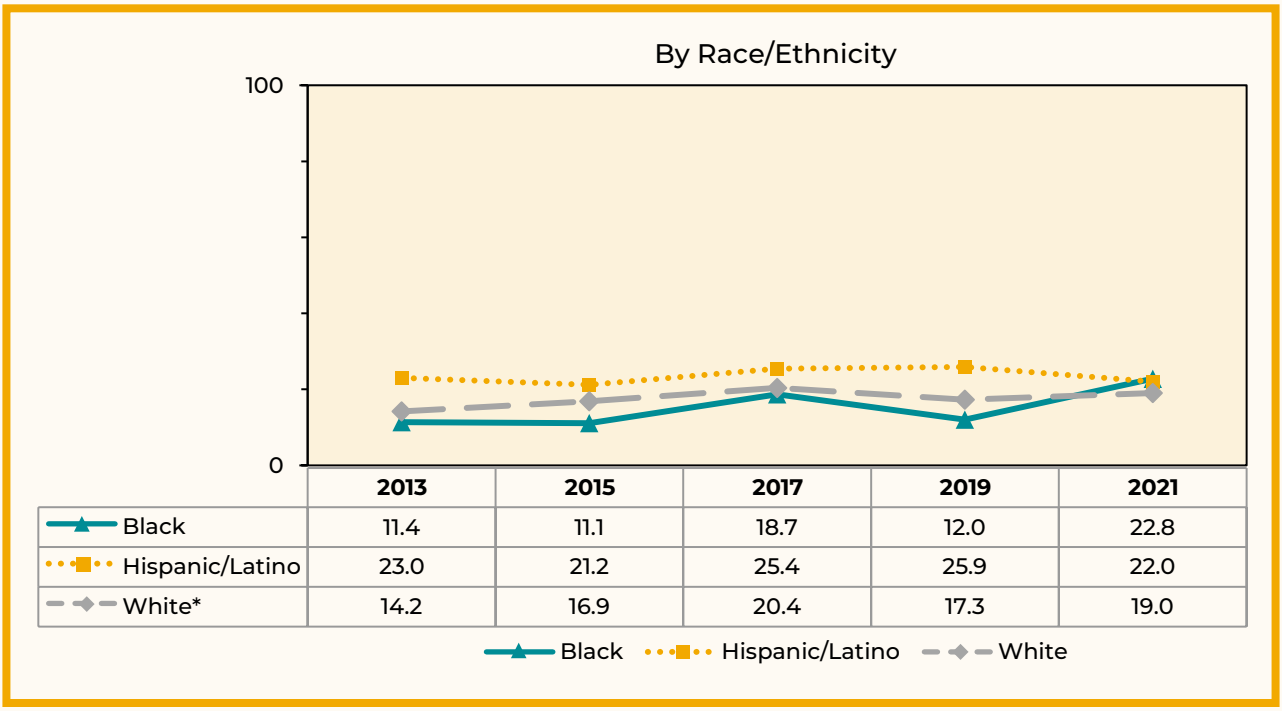
*In the 12 months before the survey.
†F > M; 11th > 9th, 11th > 10th, LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of Students who **Seriously Considered Attempting Suicide** in the Past Year, Missouri, YRBS, 2013–2021



	2013	2015	2017	2019	2021
Female	18.6	18.9	24.1	20.2	25.5
Male*	10.1	13.2	17.5	14.5	15.2

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



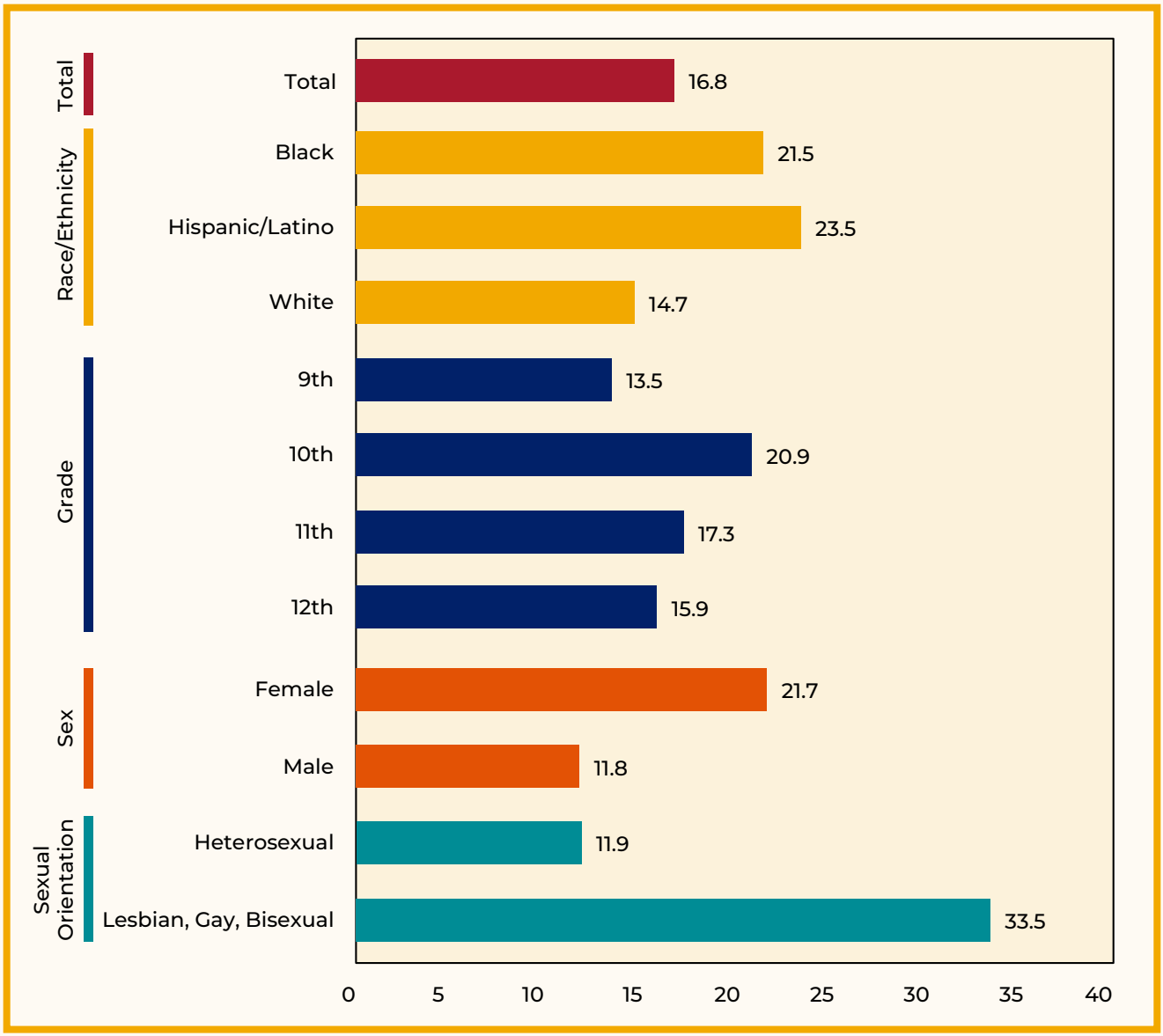
	2013	2015	2017	2019	2021
Black	11.4	11.1	18.7	12.0	22.8
Hispanic/Latino	23.0	21.2	25.4	25.9	22.0
White*	14.2	16.9	20.4	17.3	19.0

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Made a Plan for a Suicide Attempt

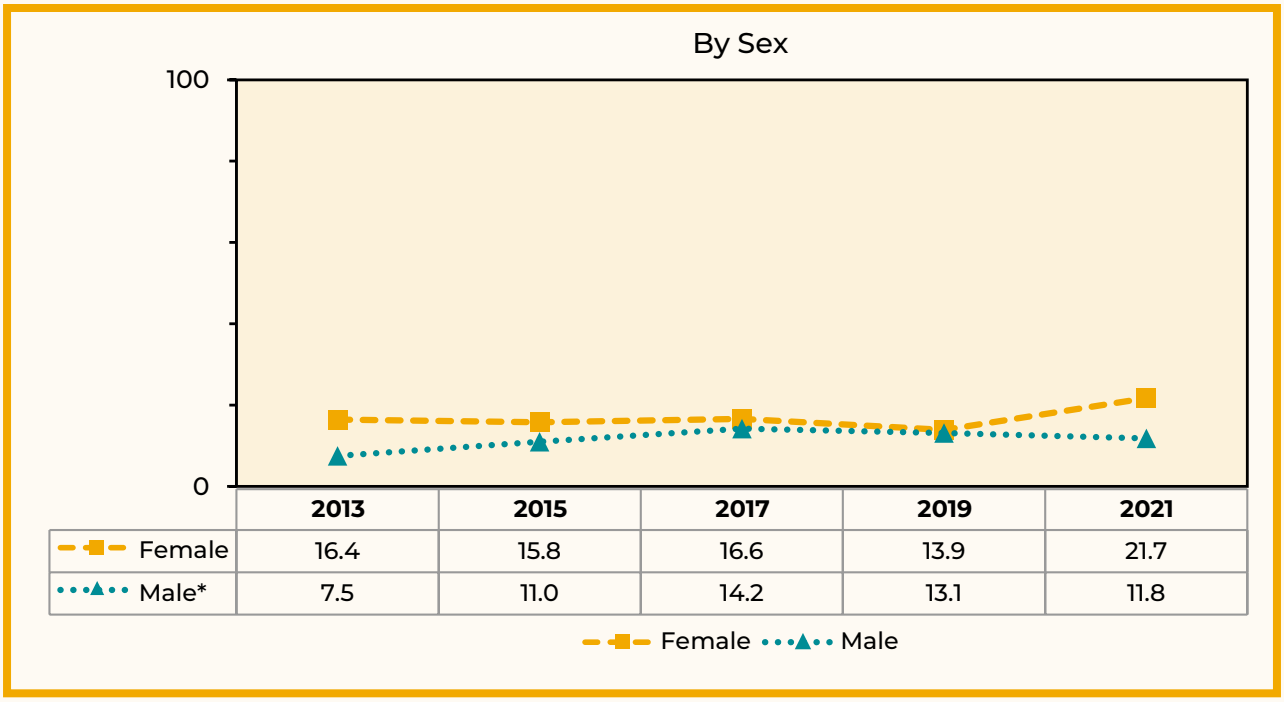
Female students had a higher prevalence than male students. The prevalence for students in 10th grade was higher than for students in 9th grade. Students who identified as lesbian, gay or bisexual had a higher prevalence than heterosexual students.

Percentage of Students who **Made a Plan About How They Would Attempt Suicide*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



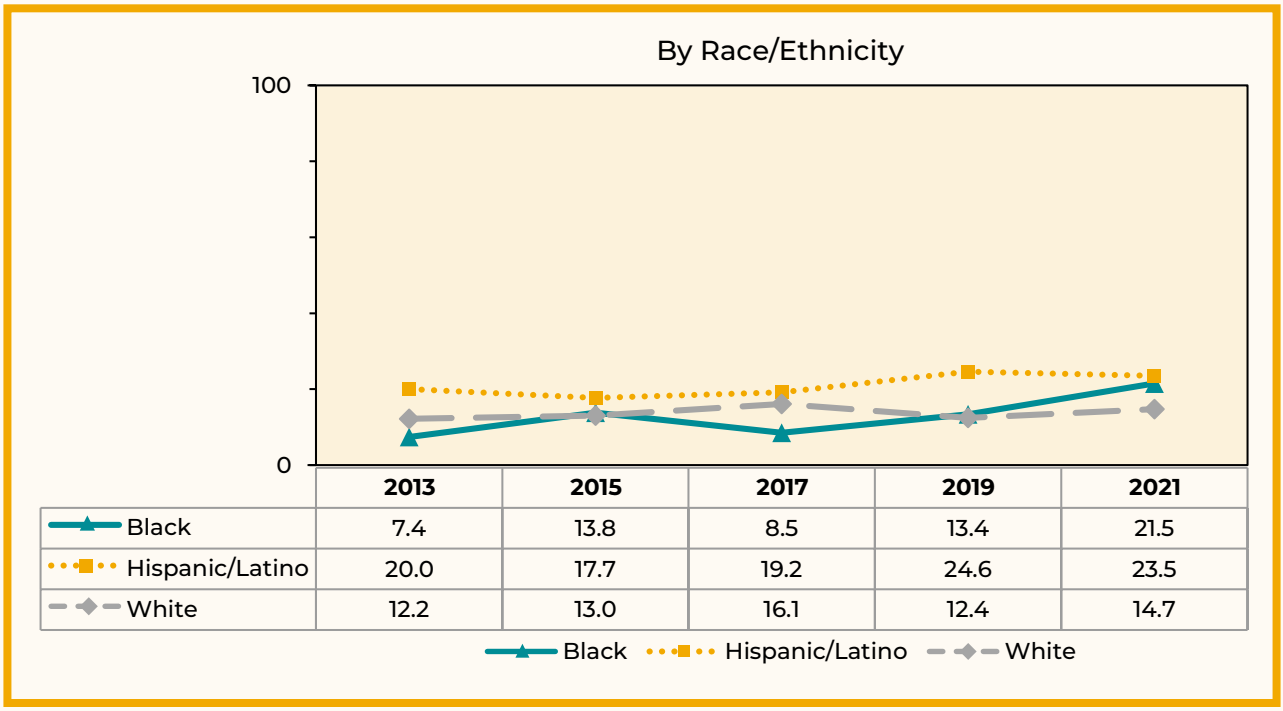
*In the 12 months before the survey.
†F > M; 10th > 9th, LGB > H (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of Students who **Made a Plan About How They Would Attempt Suicide** in the Past Year, Missouri, YRBS, 2013–2021



	2013	2015	2017	2019	2021
Female	16.4	15.8	16.6	13.9	21.7
Male*	7.5	11.0	14.2	13.1	11.8

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

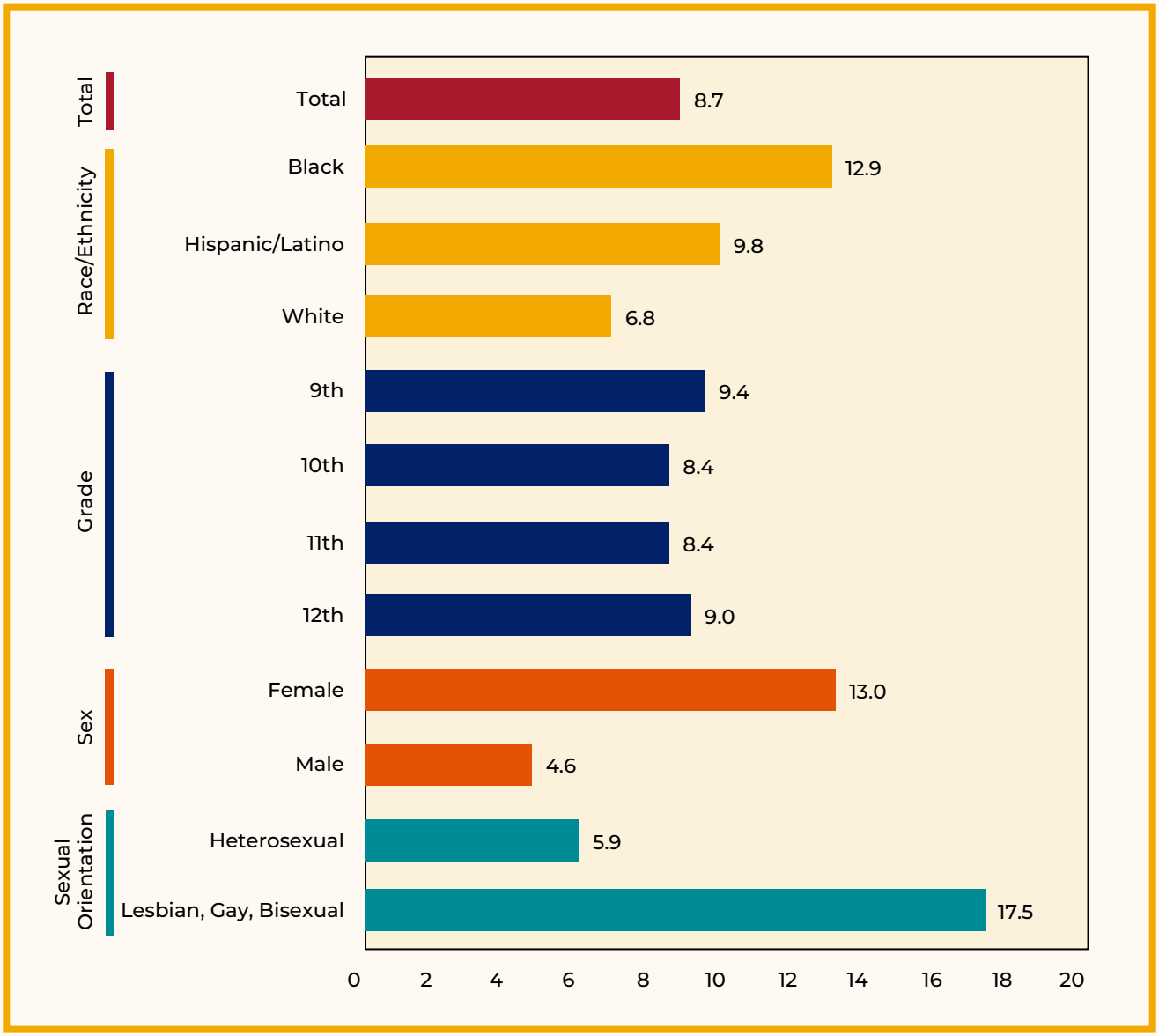


	2013	2015	2017	2019	2021
Black	7.4	13.8	8.5	13.4	21.5
Hispanic/Latino	20.0	17.7	19.2	24.6	23.5
White	12.2	13.0	16.1	12.4	14.7

Actually Attempted Suicide

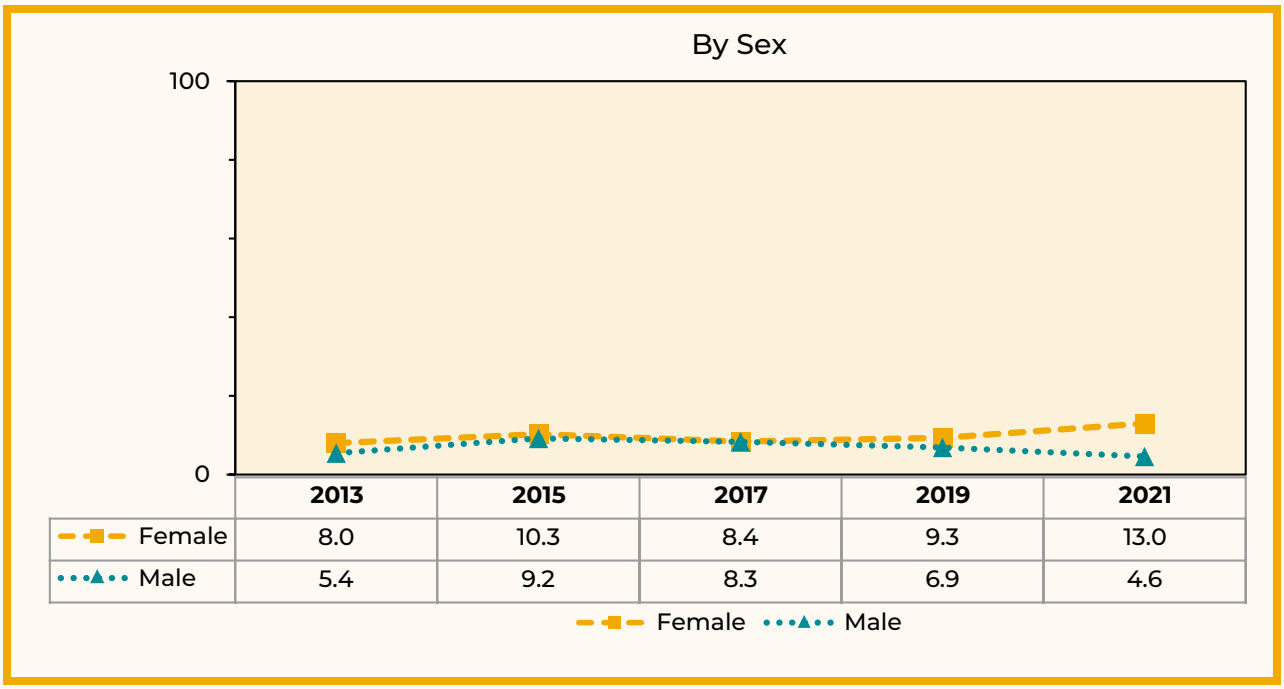
Female students were more likely to have attempted suicide than male students.

Percentage of Students who **Actually Attempted Suicide*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

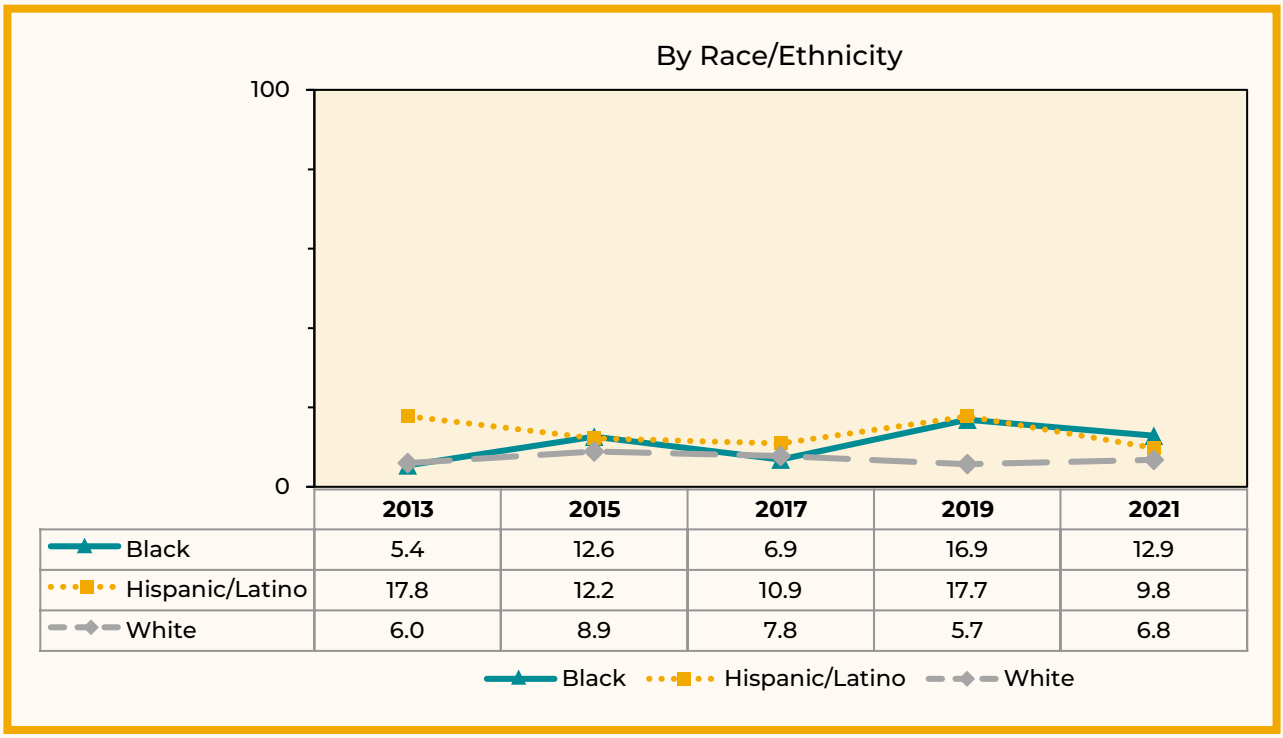


*At least once in the 12 months before the survey.
†F > M (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of Students who **Actually Attempted Suicide** in the Past Year, Missouri, YRBS, 2013–2021



	2013	2015	2017	2019	2021
Female	8.0	10.3	8.4	9.3	13.0
Male	5.4	9.2	8.3	6.9	4.6

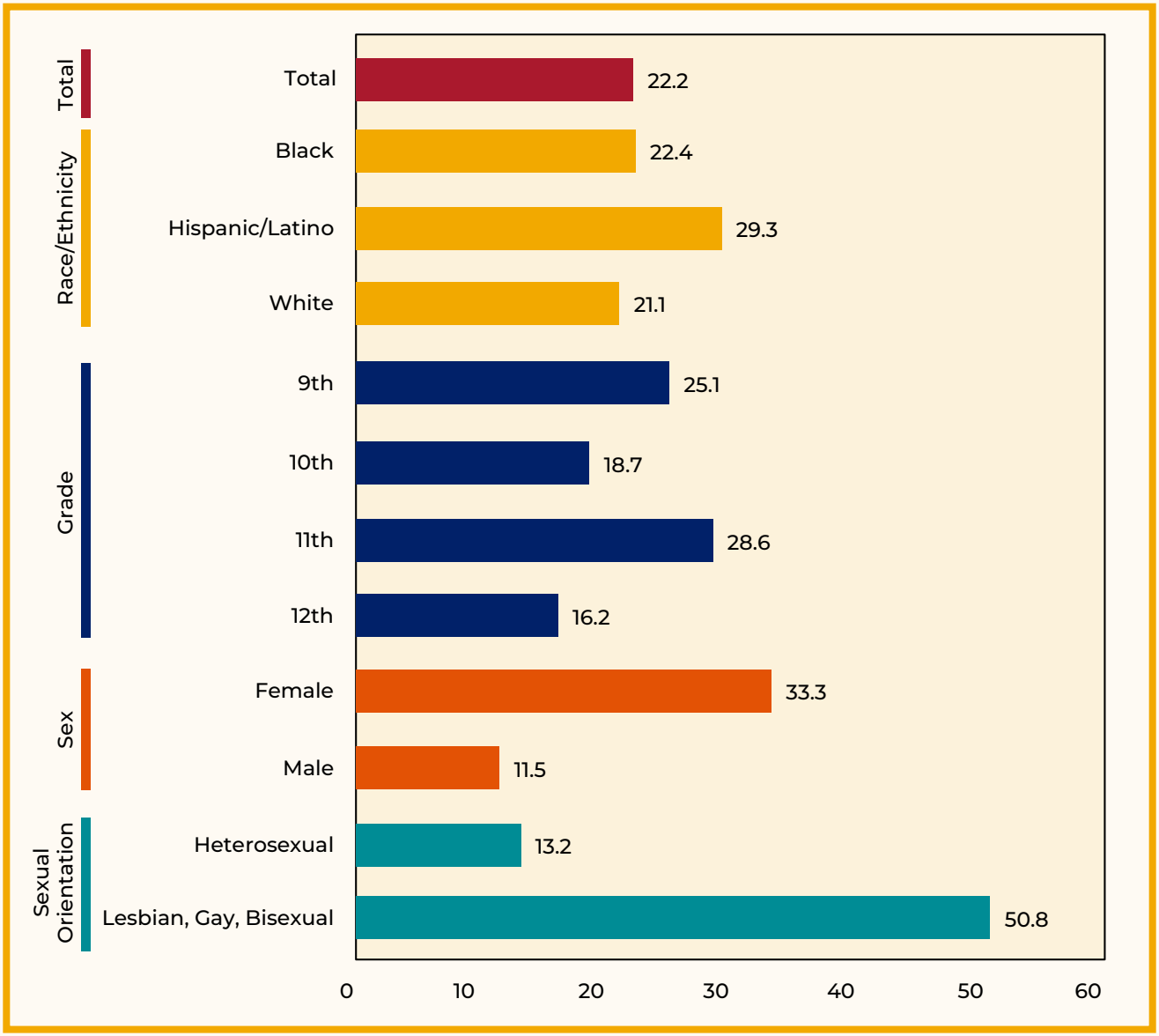


	2013	2015	2017	2019	2021
Black	5.4	12.6	6.9	16.9	12.9
Hispanic/Latino	17.8	12.2	10.9	17.7	9.8
White	6.0	8.9	7.8	5.7	6.8

Purposely Hurt Themselves

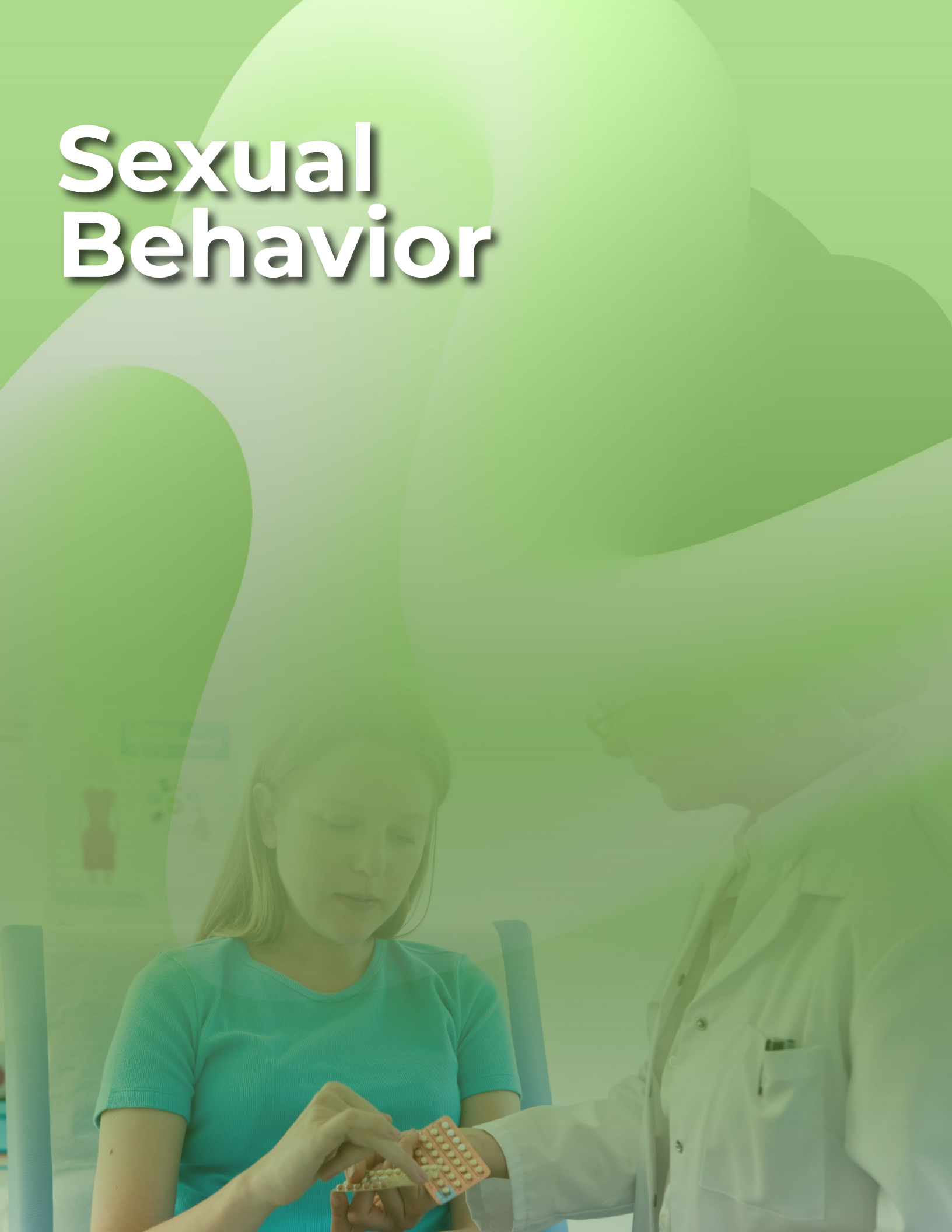
The prevalence for female students was higher than for male students. The prevalence for students in 11th grade was higher than for students in 10th and 12th grade. Students who identified as lesbian, gay or bisexual had a higher prevalence than heterosexual students.

Percentage of High School Students who **Did Something to Purposely Hurt Themselves Without Wanting to Die*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



*Such as cutting or burning themselves on purpose at least once in the 12 months before the survey.
†F > M; 11th > 10th, 11th > 12th, LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Sexual Behavior



AT-A-GLANCE:
Sexual Behavior

During adolescence, engaging in sexual behaviors without the proper knowledge or support can put youth at risk for harmful outcomes such as unintended pregnancy or sexually transmitted diseases (STDs), including HIV.[13] In 2021, young people aged 13-24 accounted for 20% of all new HIV diagnoses in Missouri.[14] Young people aged 15-24 accounted for over half of the 49,000 STDs reported in Missouri for 2021.[15] Although teen births have declined by over 50% since 2011, more than 3,000 infants were born to adolescents in Missouri in 2021.[16]

Questions related to sexual behaviors included assessing sexual activity, using condoms or hormonal birth control, and HIV and STD testing.

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Currently sexually active	32.4	27.5	32.3	33.2	22.5	◆
Used a condom during last sexual intercourse†	58.1	56.4	51.0	56.4	53.4	◆
Effective hormonal birth control use†	-	-	-	-	41.6	-
Drank alcohol or used drugs before last sexual intercourse†	20.7	20.4	15.5	20.2	21.8	◆
Ever tested for HIV	-	-	13.7	8.4	6.4	⬢
Tested for sexually transmitted diseases	-	-	-	-	5.2	-

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
†Among sexually active students.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

⬢ In wrong direction
◆ No change
⛨ In right direction

SUMMARY OF RESULTS:
Sexual Behavior

The percentage of high school students who engaged in risky sexual behaviors did not change significantly from 2011 to 2021. While it is optimistic that the patterns have not increased, it has highlighted that improvement is still needed. The overall decrease in lifetime HIV testing was concerning.

In 2021

One in five high school students was sexually active in the past three months. Half of sexually active students used a condom the last time they had sex. Students in 12th grade were more likely to have been currently sexually active than all other grades. One in five sexually active students drank alcohol or used drugs before their last sexual encounter. Among high school students, 6% had gotten tested for HIV and 5% had received testing for sexually transmitted diseases.

Trends

From 2013 to 2021, fewer Black students were currently sexually active. The percentage of students who had ever received testing for HIV decreased from 2017 to 2021.

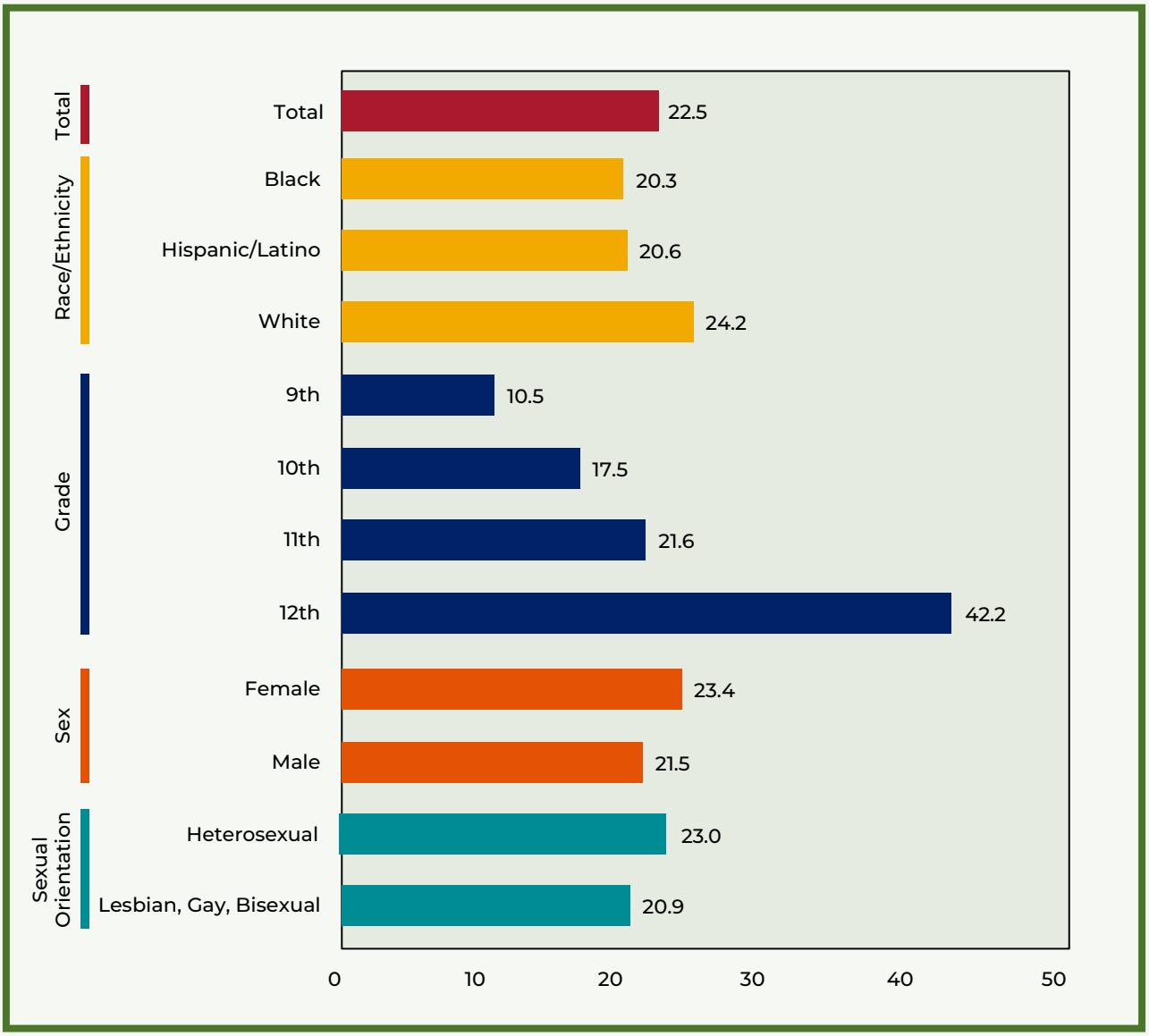
National Comparison

There was a slightly larger percentage of Missouri high school students who were currently sexually active (23%) than the national average (21%). More Missouri high school students used effective hormonal birth control than compared to the national YRBS results (42% vs. 33%).

Currently Sexually Active

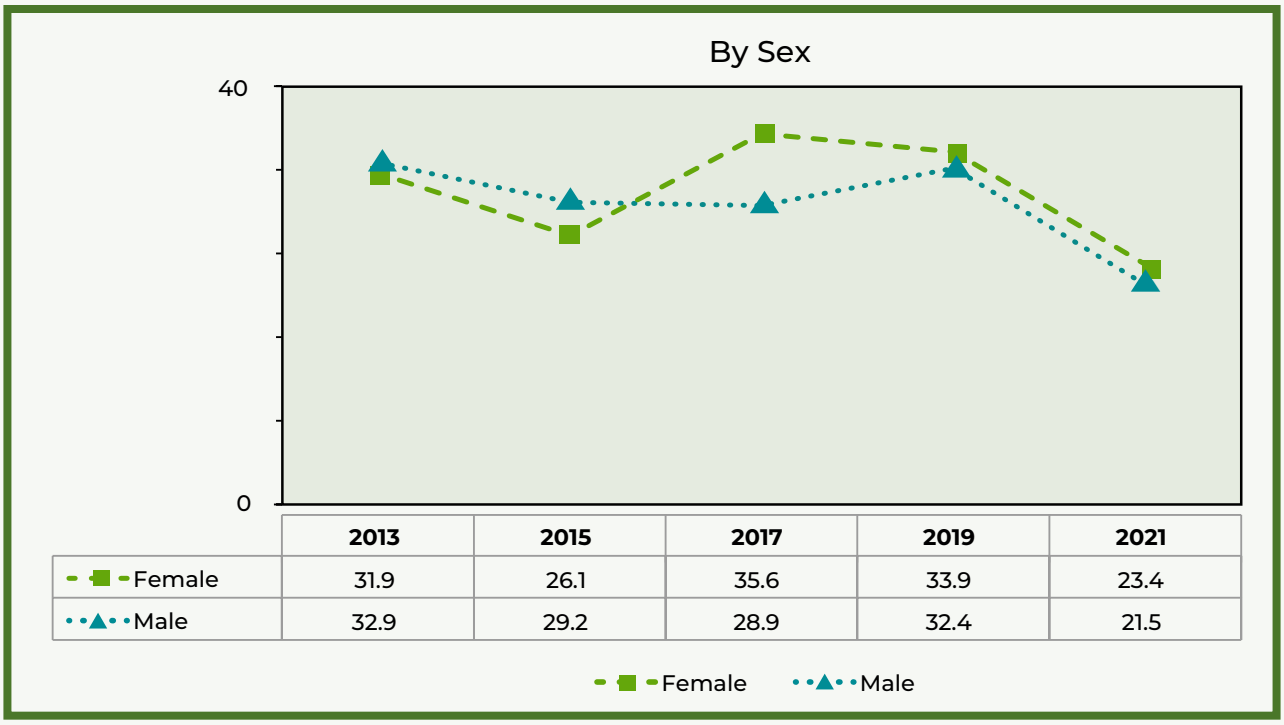
Students in 12th grade were more likely to have been currently sexually active than all other grades.

Percentage of High School Students who Were **Currently Sexually Active,*** by Demographic Characteristics,† Missouri, YRBS, 2021

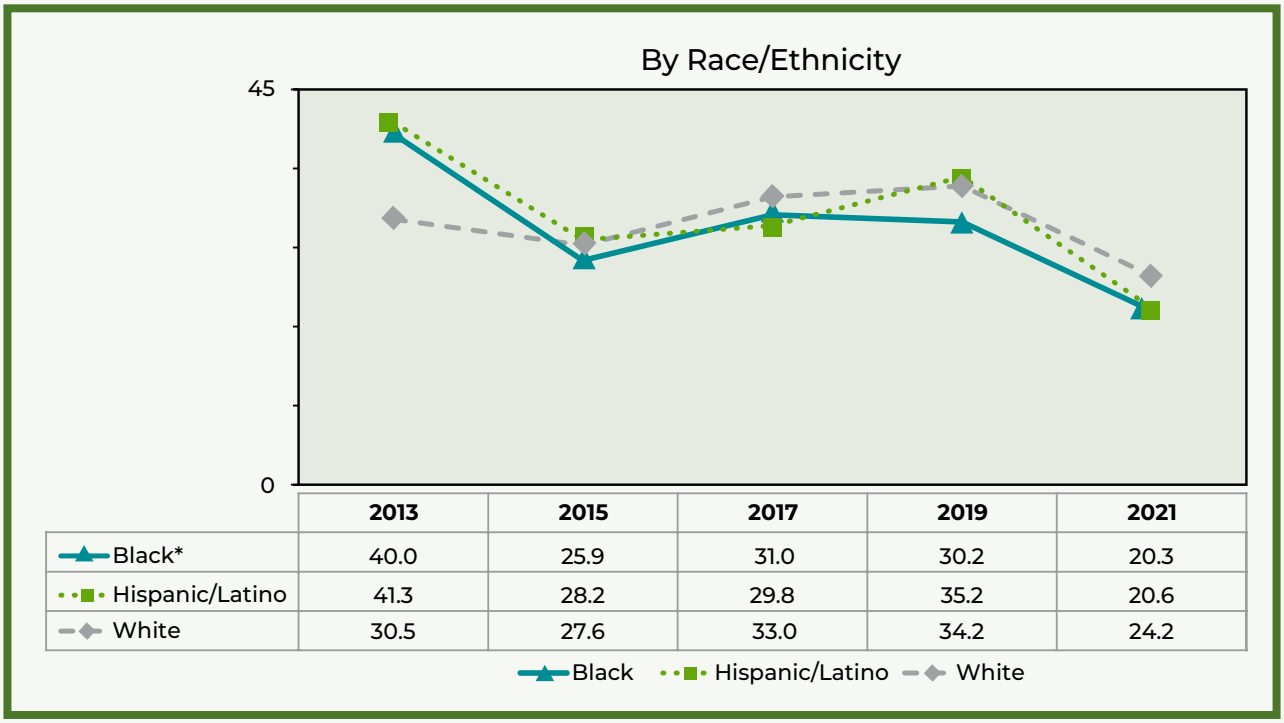


*Had sexual intercourse with at least one person in the three months before the survey.
†12th > 9th, 12th > 10th, 12th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who Were **Currently Sexually Active**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	31.9	26.1	35.6	33.9	23.4
Male	32.9	29.2	28.9	32.4	21.5



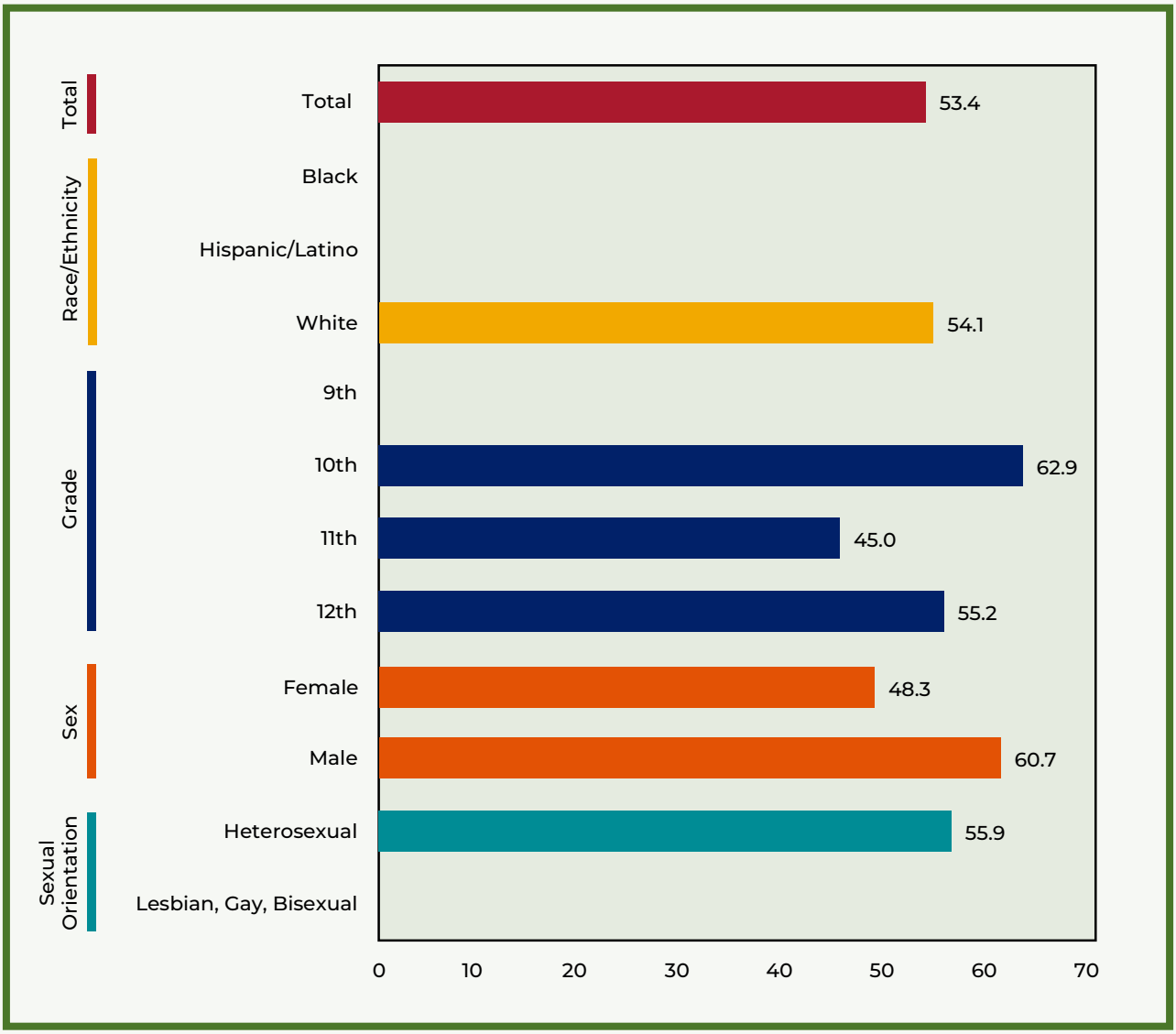
	2013	2015	2017	2019	2021
Black*	40.0	25.9	31.0	30.2	20.3
Hispanic/Latino	41.3	28.2	29.8	35.2	20.6
White	30.5	27.6	33.0	34.2	24.2

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Used a Condom During Last Sexual Intercourse

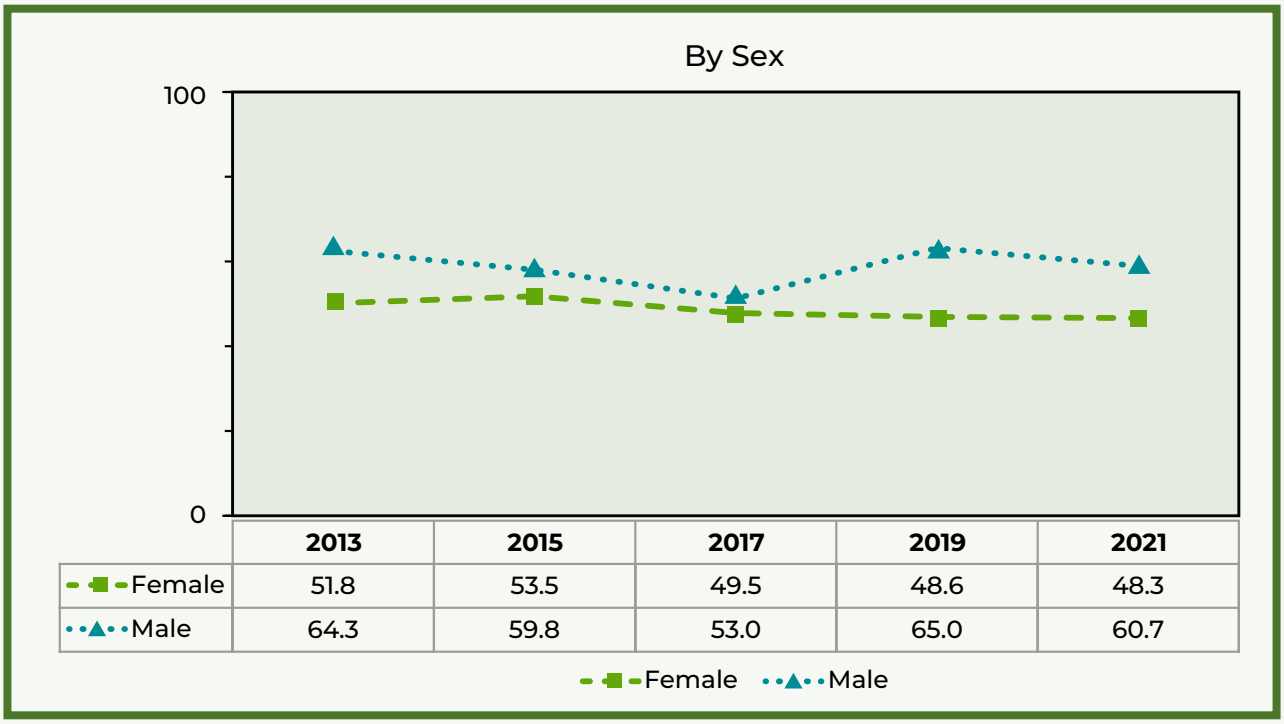
Students in 10th grade were more likely to have used a condom during their most recent sexual intercourse than students in 11th grade.

Percentage of High School Students who **Used a Condom During Their Last Sexual Intercourse,*** by Demographic Characteristics,† Missouri, YRBS, 2021

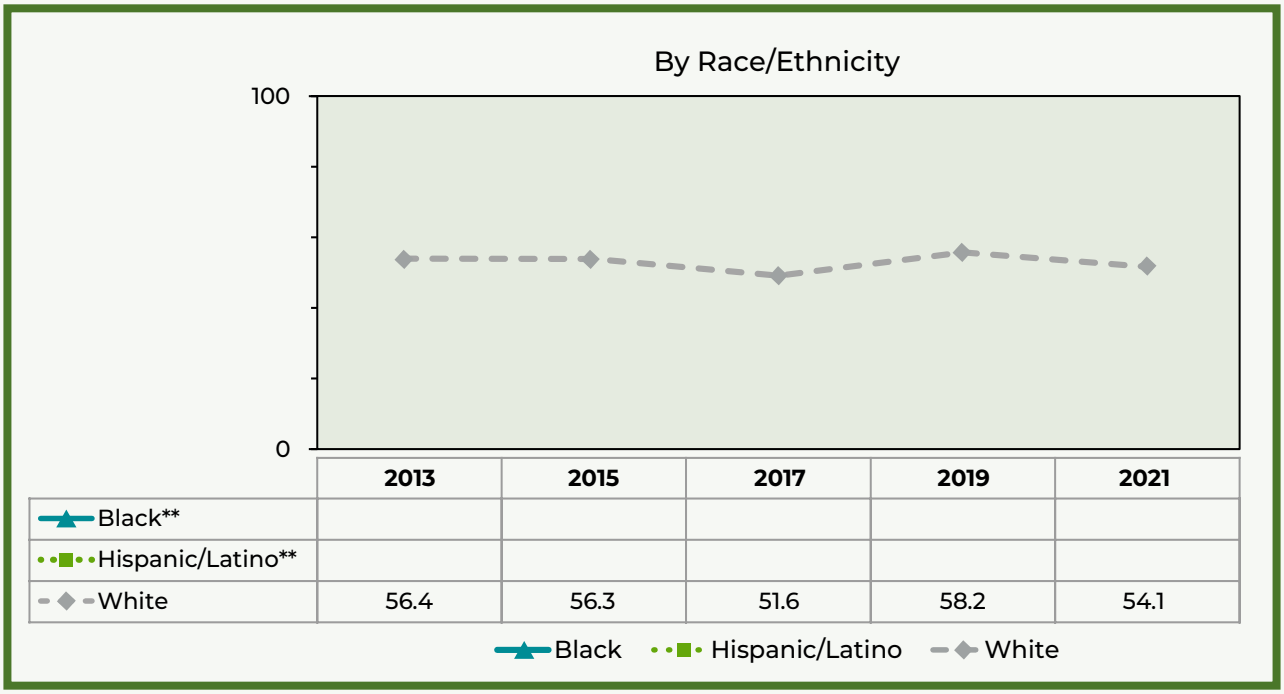


*Among students who were currently sexually active.
†10th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
A missing bar indicates fewer than 30 students in the subgroup.

Trends in Percentage of High School Students who **Used a Condom During Their Last Sexual Intercourse**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	51.8	53.5	49.5	48.6	48.3
Male	64.3	59.8	53.0	65.0	60.7



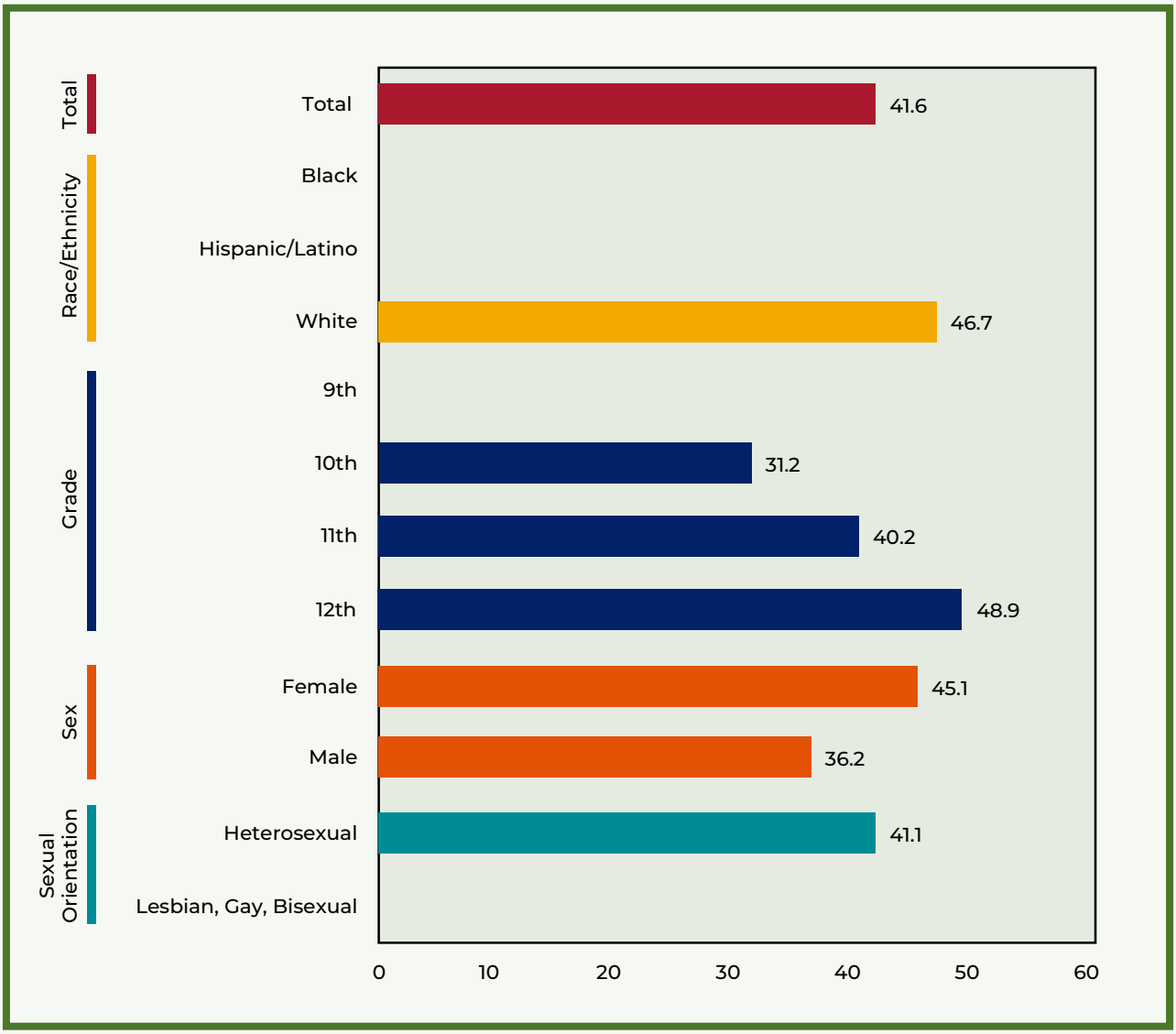
	2013	2015	2017	2019	2021
Black**					
Hispanic/Latino**					
White	56.4	56.3	51.6	58.2	54.1

**Linear change unavailable.

Effective Hormonal Birth Control

There were no significant differences in effective hormonal birth control use between sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Used Effective Hormonal Birth Control,*** by Demographic Characteristics, Missouri, YRBS, 2021

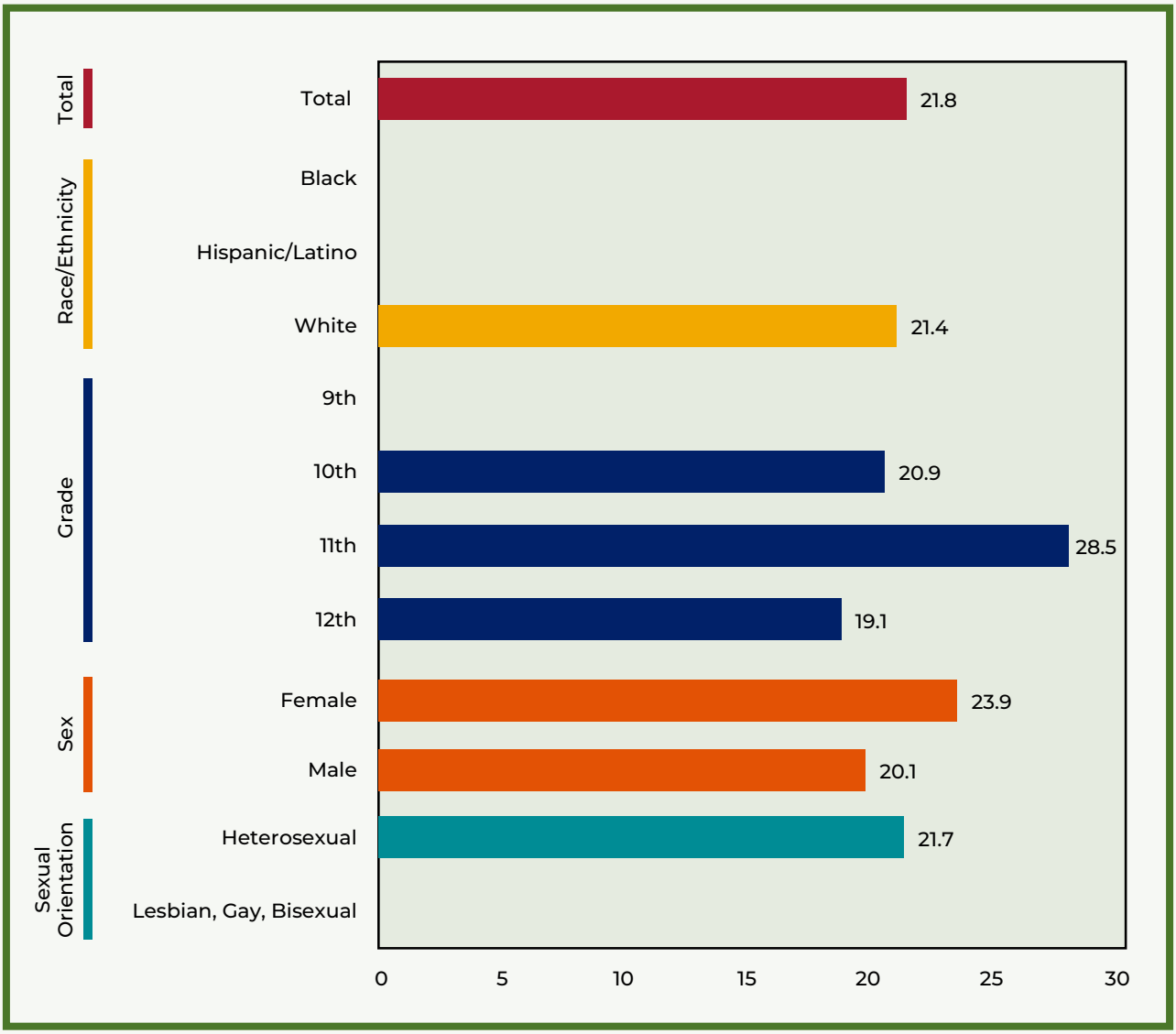


*Defined as birth control pills, a shot, a patch, a birth control ring, or an IUD or implant, among students who were currently sexually active.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
A missing bar indicates fewer than 30 students in the subgroup.

Under the Influence During Last Sexual Intercourse

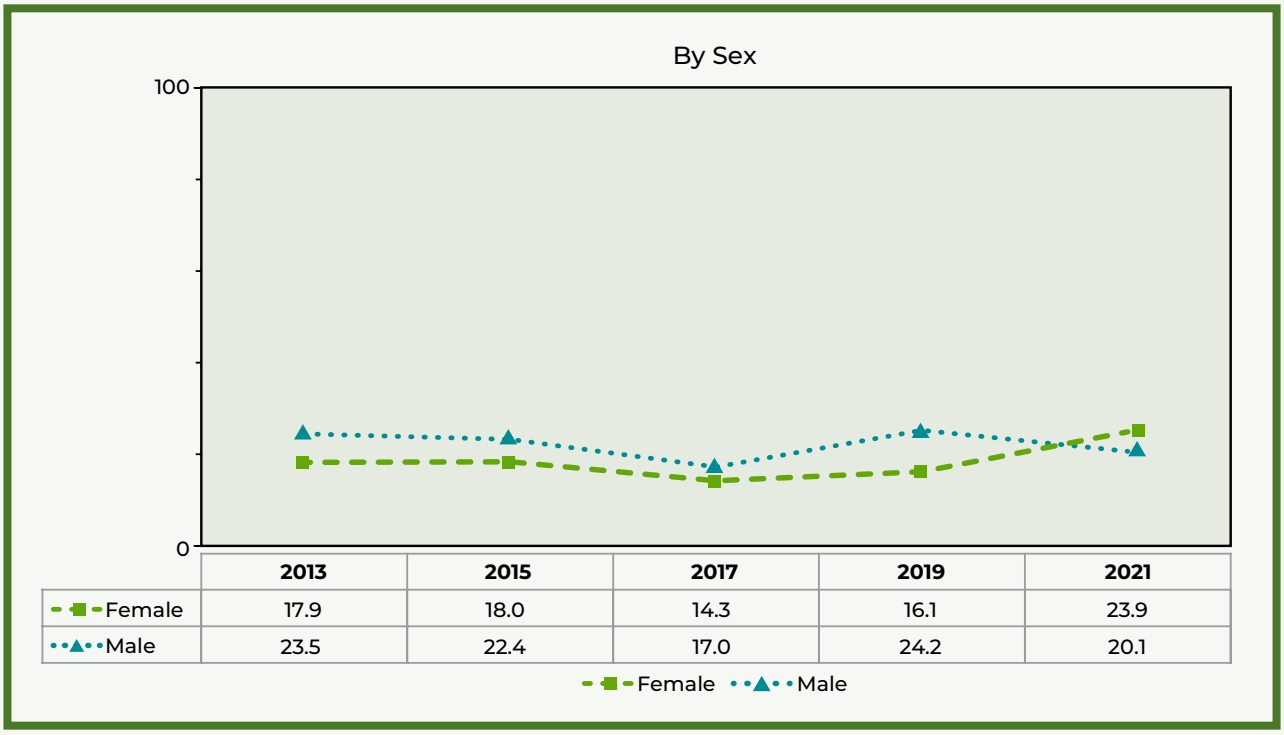
There were no significant differences in drinking alcohol or using drugs before previous sexual intercourse between sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Drank Alcohol or Used Drugs Before Last Sexual Intercourse,*** by Demographic Characteristics, Missouri, YRBS, 2021

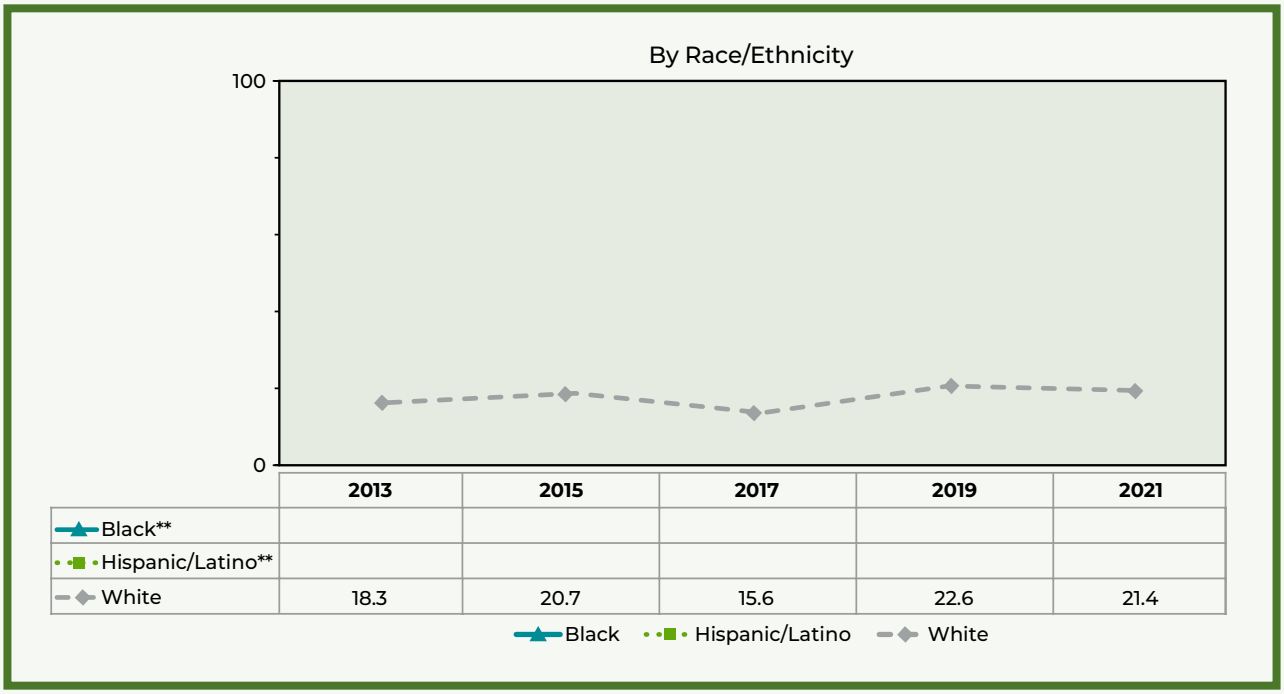


*Among students who were currently sexually active.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
A missing bar indicates fewer than 30 students in the subgroup.

Trends in Percentage of High School Students who **Drank Alcohol or Used Drugs Before Last Sexual Intercourse**, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	17.9	18.0	14.3	16.1	23.9
Male	23.5	22.4	17.0	24.2	20.1



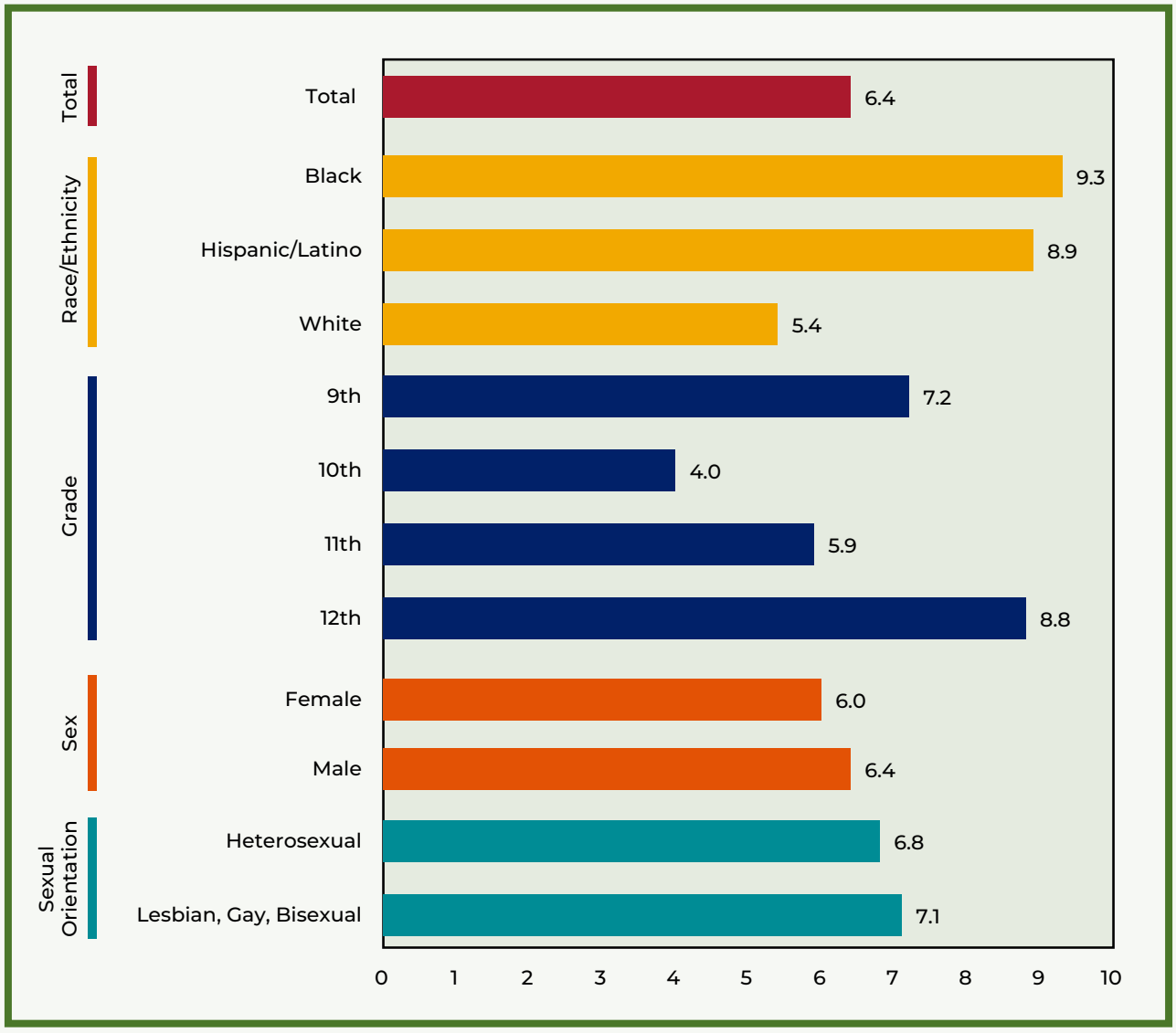
	2013	2015	2017	2019	2021
Black**					
Hispanic/Latino**					
White	18.3	20.7	15.6	22.6	21.4

**Linear change unavailable.

Ever Tested for Human Immunodeficiency Virus (HIV)

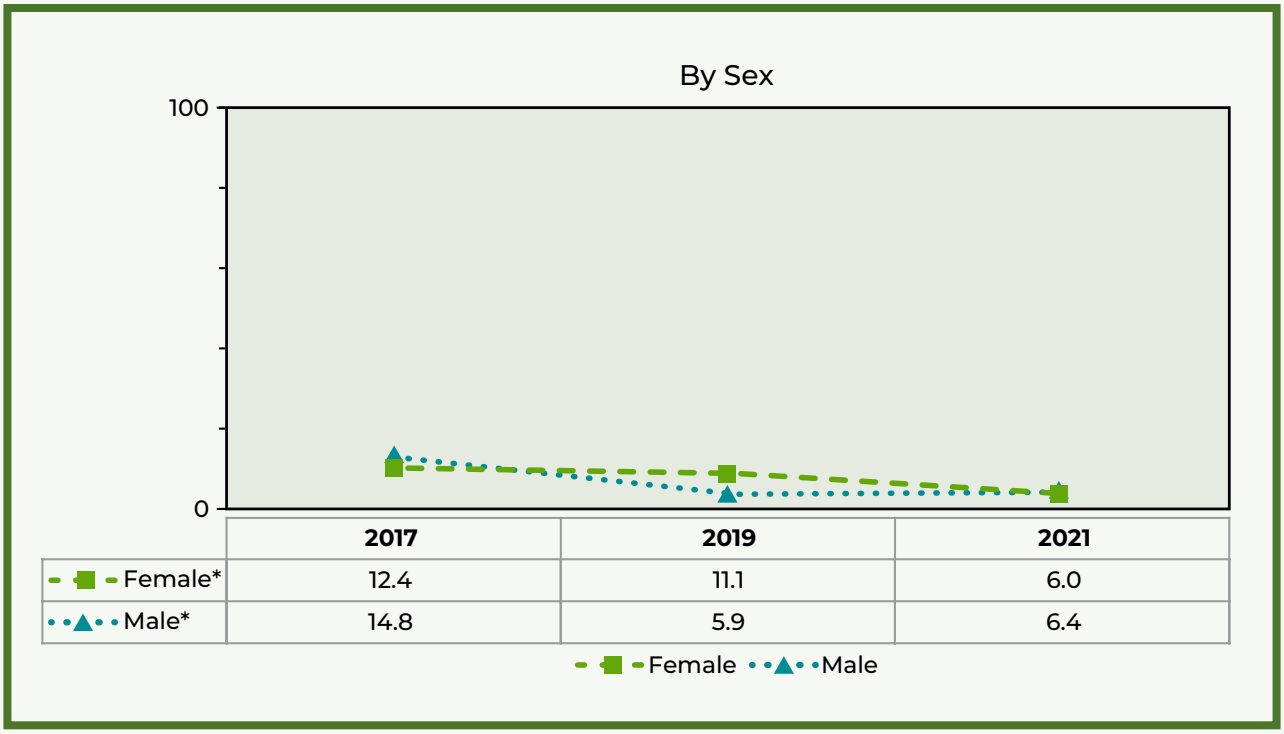
There were no significant differences in testing for HIV between sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Had Ever Been Tested for HIV,*** by Demographic Characteristics, Missouri, YRBS, 2021



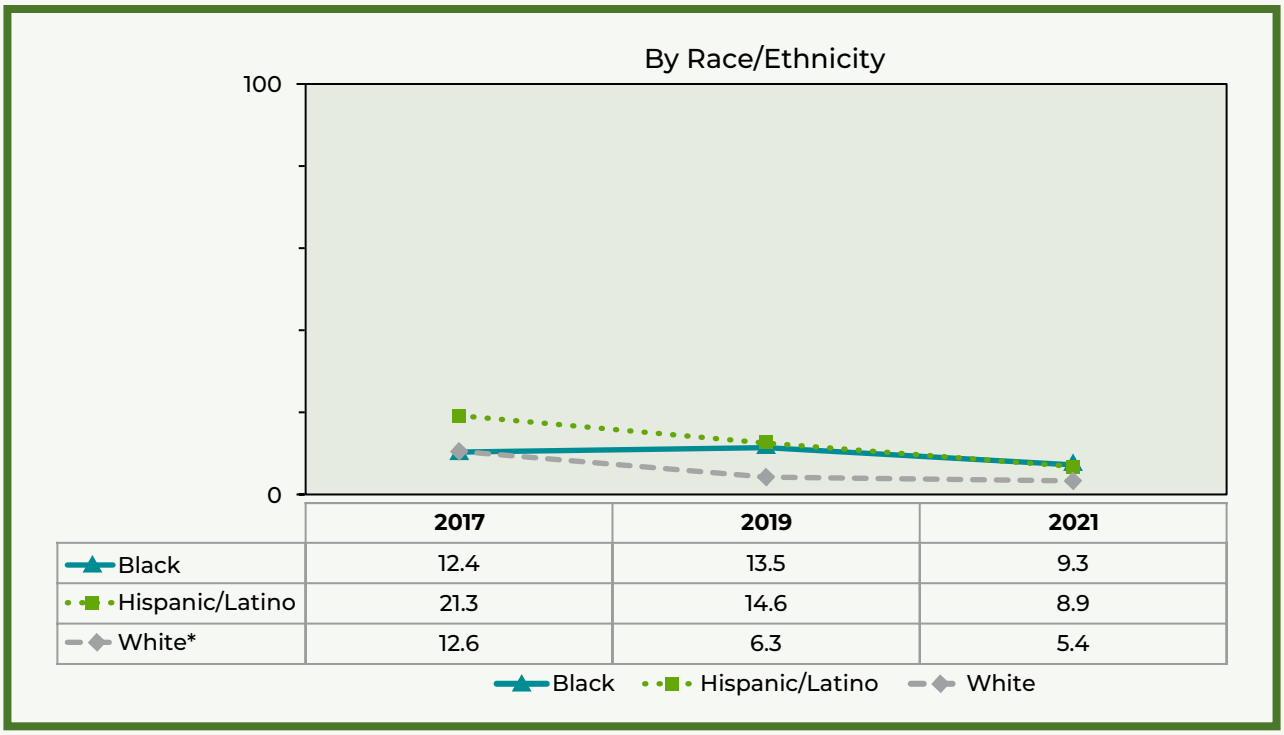
*Not counting tests done if they donated blood.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Had Ever Been Tested for HIV**, Missouri, YRBS, 2017-2021



	2017	2019	2021
Female*	12.4	11.1	6.0
Male*	14.8	5.9	6.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



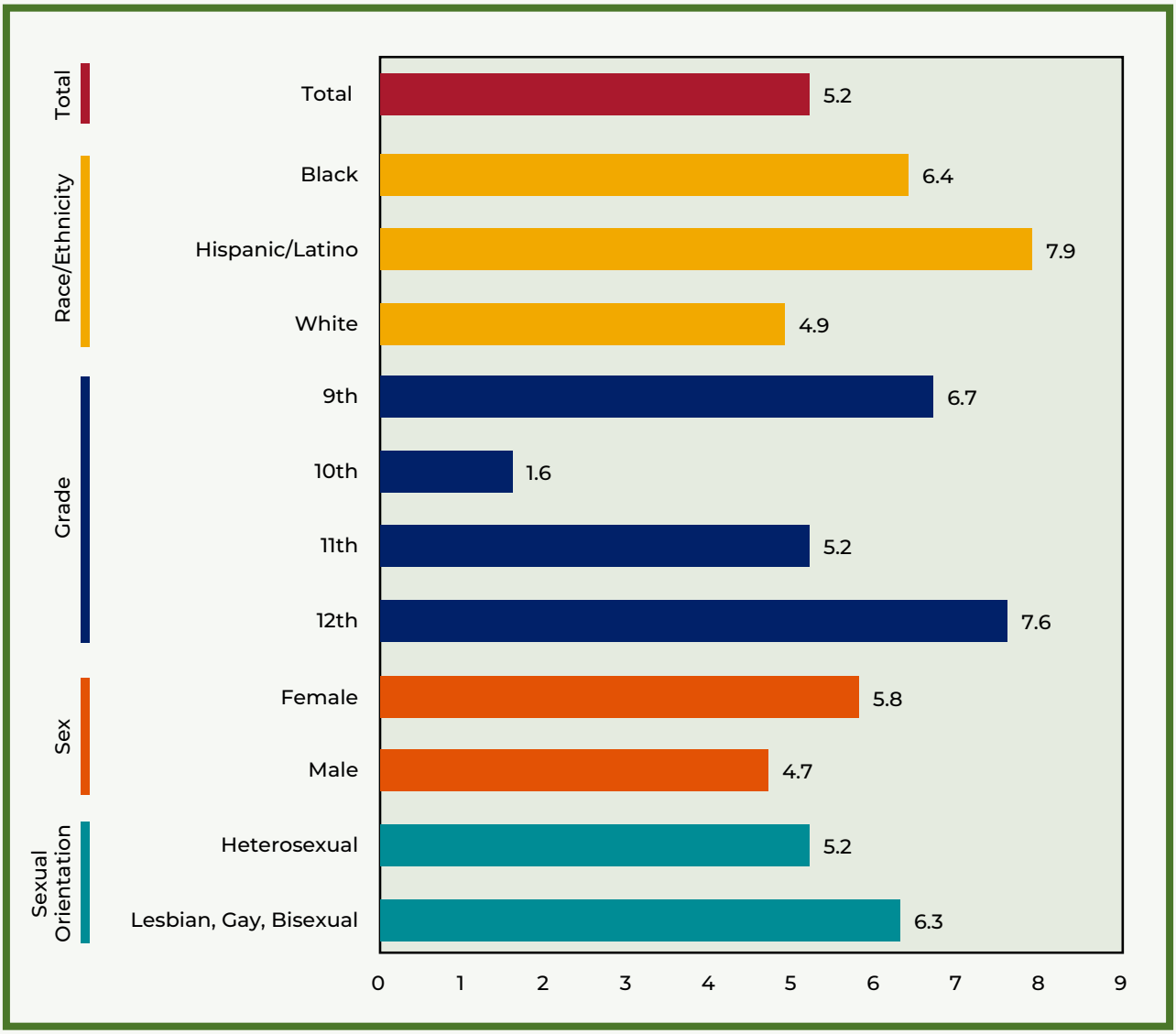
	2017	2019	2021
Black	12.4	13.5	9.3
Hispanic/Latino	21.3	14.6	8.9
White*	12.6	6.3	5.4

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Tested for a Sexually Transmitted Disease (STD)

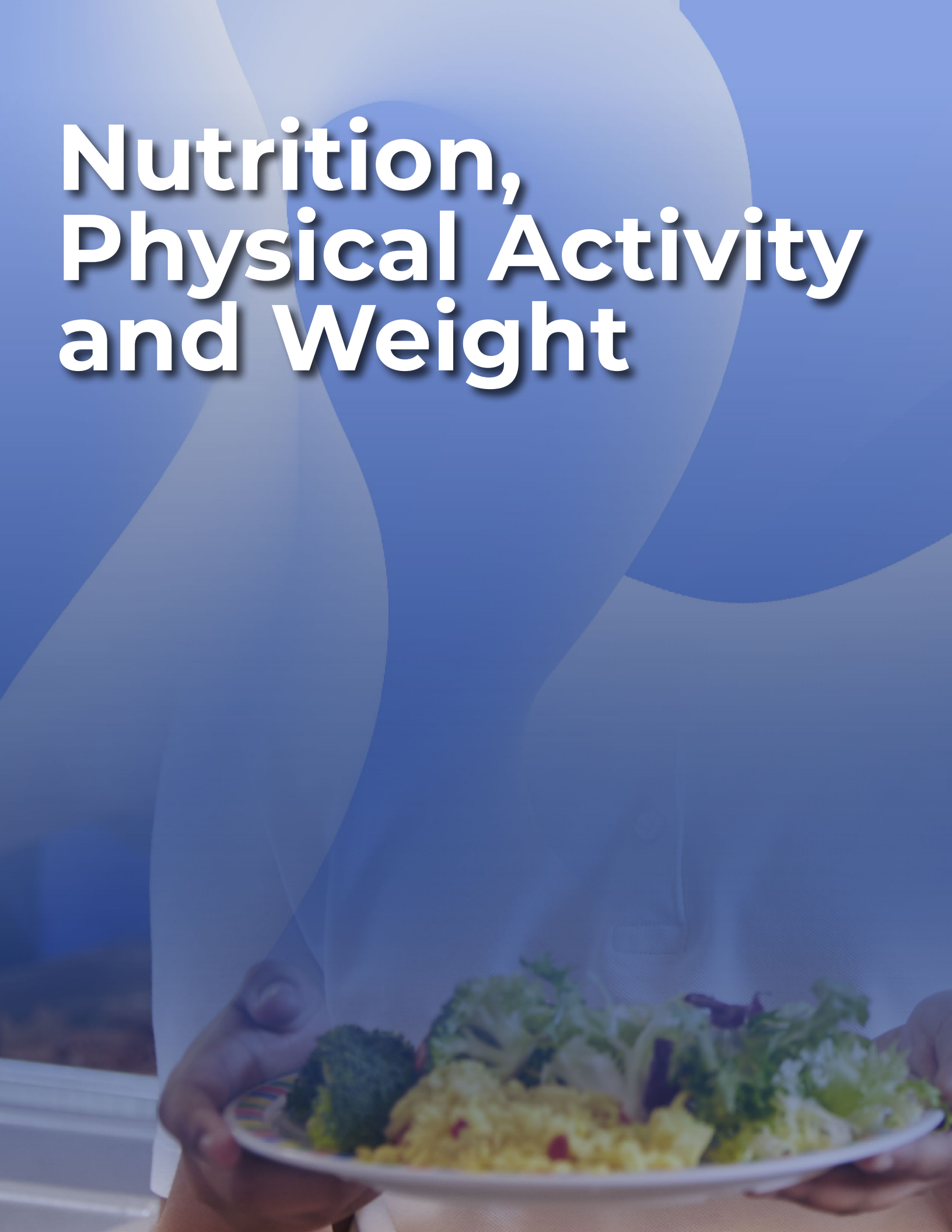
Students in 10th grade were less likely to have been tested for an STD than students in 9th, 11th and 12th grade.

Percentage of High School Students who **Had Been Tested for an STD*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



*Other than HIV, such as chlamydia or gonorrhea, in the 12 months before the survey.
†9th > 10th, 11th > 10th, 12th > 10th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Nutrition, Physical Activity and Weight



AT-A-GLANCE: Nutrition, Physical Health and Weight

In recent years, there has been growing concern about physical inactivity and poor nutrition among high school students. The sedentary lifestyles and unhealthy eating habits common among this age group have led to various adverse health outcomes, including obesity, cardiovascular diseases and mental health issues.[17]

Physical activity has been widely recognized as a key component of a healthy lifestyle, contributing to improved physical and mental well-being. According to the Centers for Disease Control and Prevention (CDC), adolescents should engage in at least 60 minutes of moderate-to-vigorous physical activity daily.[18] However, numerous studies have shown that many high school students fail to meet these recommendations, primarily due to increased screen time, reduced access to physical education classes and limited opportunities for active recreation. Nutrition plays a critical role in supporting physical activity and overall health. Inadequate nutrition not only hampers physical performance but also negatively impacts cognitive function, concentration and academic achievement.[19]

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Ate fruit or drank 100% fruit juices two or more times per day	24.6	24.1	23.1	20.3	18.0	⬢
Did not eat green salad in the past week	41.5	43.6	45.7	42.8	50.2	⬢
Ate vegetables two or more times per day	24.2	21.8	21.9	26.3	18.9	⬢
Drank soda one or more times per day	-	-	-	21.6	14.7	⛉
Drank milk one or more times per day	38.0	36.0	28.8	26.2	22.2	⬢
Physically active for 60 minutes every day	27.2	26.0	28.6	25.3	28.0	◆
Attended PE classes	46.1	46.0	49.5	52.7	46.9	◆
Were overweight	15.5	13.3	15.7	16.1	16.2	◆
Were obese	14.9	13.1	16.6	18.4	16.9	◆
Experienced disordered eating	-	-	-	14.4	26.1	⬢

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

⬢ In wrong direction
◆ No change
⛉ In right direction

SUMMARY OF RESULTS:
Nutrition, Physical Health and Weight

Indicators of inadequate nutrition consumption have increased in the last ten years. Weight indicators such as obesity and overweight status did not significantly increase from 2013 to 2021. Physical activity remained relatively unchanged. Soda consumption decreased significantly.

In 2021

72% of high school students did not meet the Physical Activity Guidelines for Americans, recommending that they get at least 60 minutes of moderate-to-vigorous physical activity per day. 74% of students had three or more hours of screen time per day, not counting time spent for school work.

More than one in five (22.3%) did not eat breakfast daily during the week. 8.4% of students ate vegetables three or more times a day, and 10% did not eat vegetables at all. 15.5% had not eaten fruit in the last week.

16.9% of high school students were obese and an additional 16.2% were overweight. 40% of female students were using unhealthy weight management methods to lose or prevent gaining weight.

Trends

The percentage of high school students who did not eat vegetables in the last week increased significantly from 6.3% to 10% from 2013 to 2021. In addition, the percentage of Black students who were obese increased significantly from 16.2% in 2013 to 24.2% in 2021. In the same timeframe, female students who did not eat breakfast also increased from 12.9% to 22.2%.

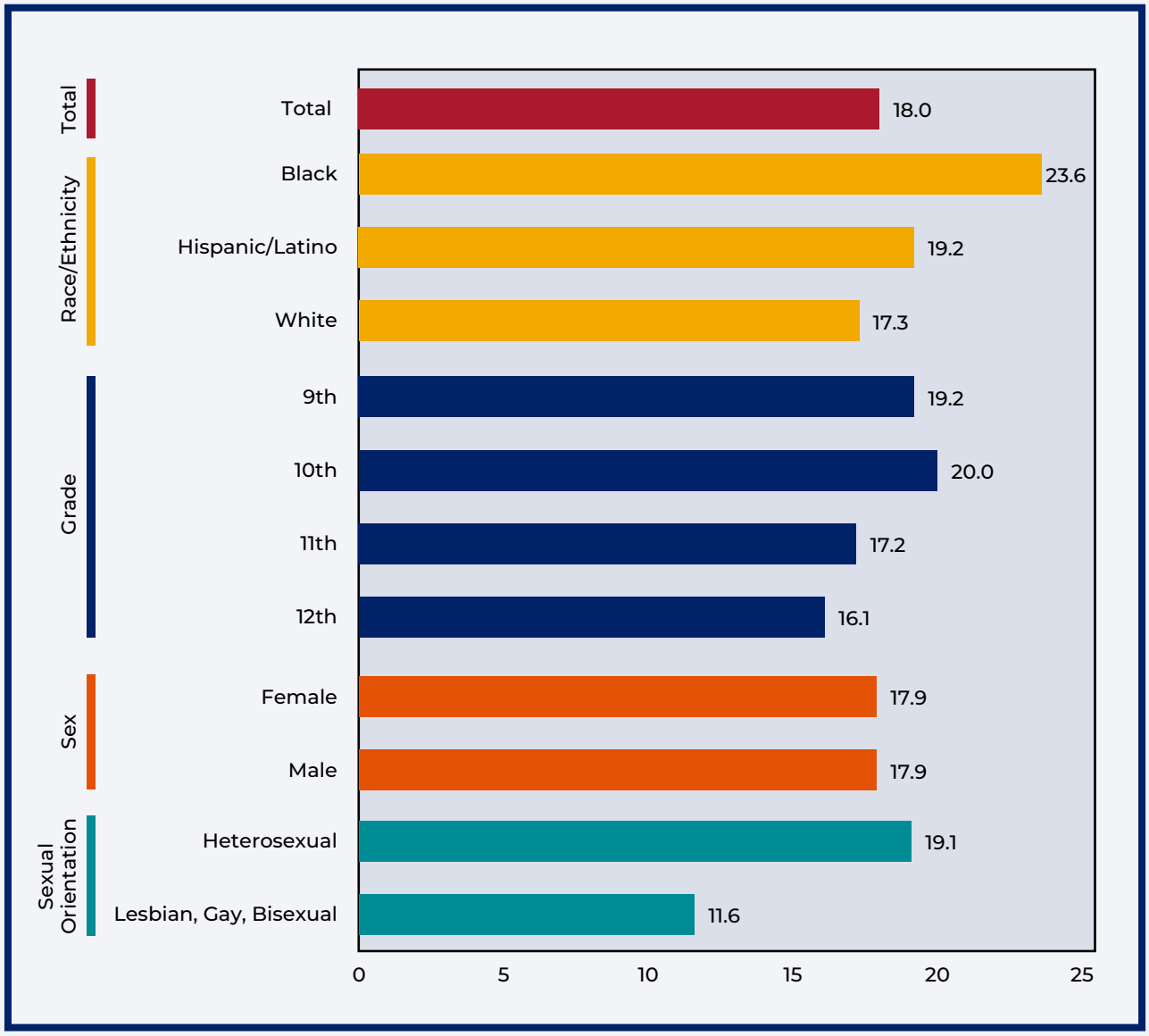
National Comparison

The percentage of students who were obese or overweight were similar when compared to national data (16.9% vs. 16.3%; 16.2% vs. 16%). Missouri fared better in the percentage of students who were not physically active for at least 60 minutes each day of the week (72% vs. 76.1%).

Ate Fruit or Drank 100% Fruit Juice

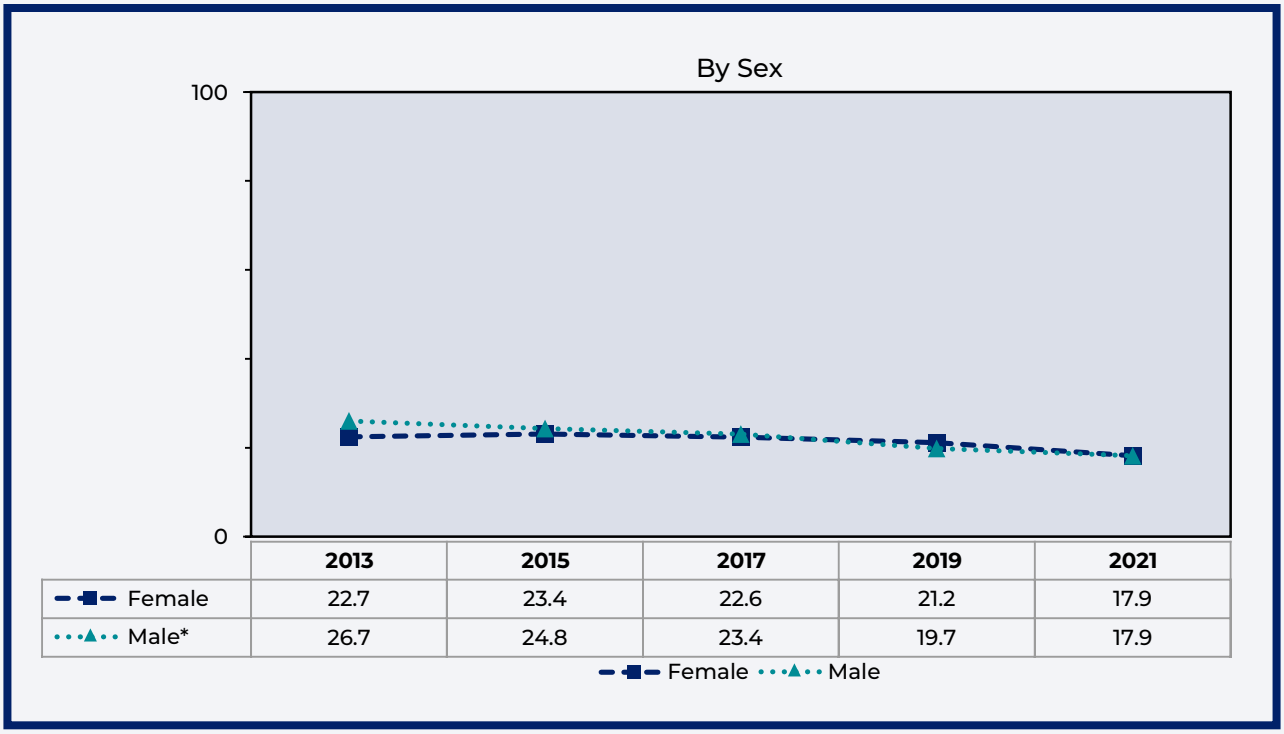
There were no significant differences in eating fruit or drinking 100% fruit juices two or more times per day between sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Ate Fruit or Drank 100% Fruit Juices Two or More Times Per Day** in the Last Week, by Demographic Characteristics, Missouri, YRBS, 2021



All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

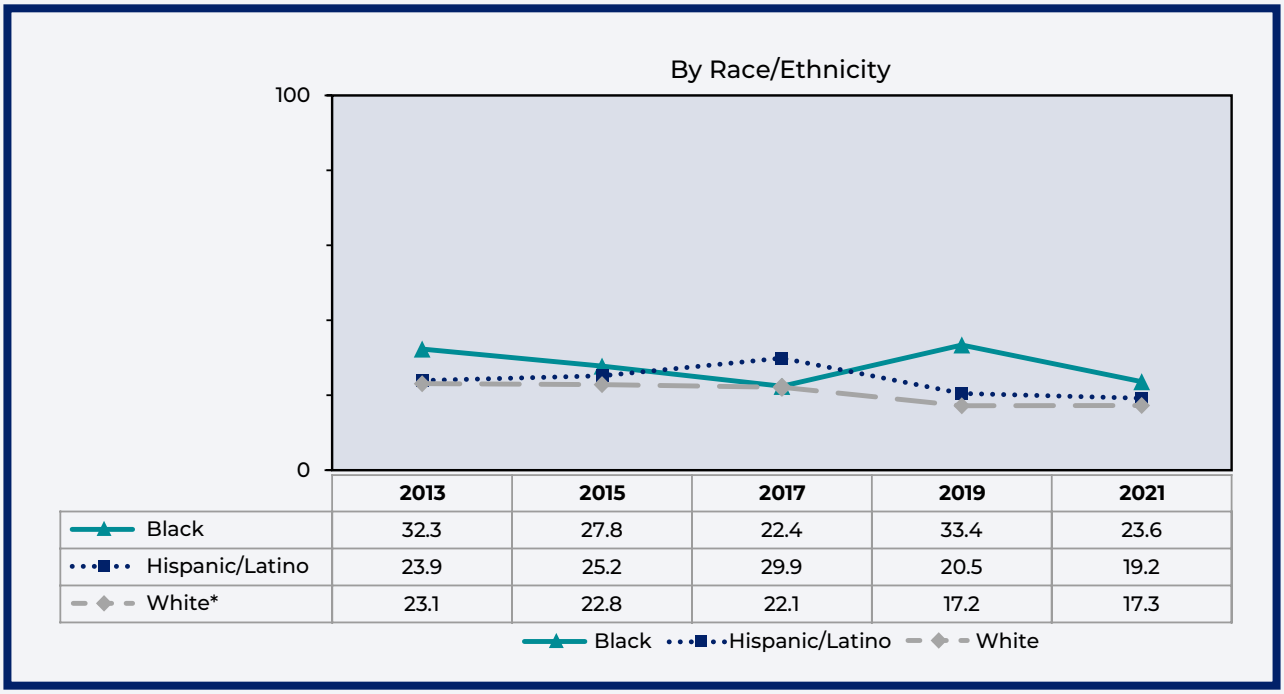
Trends in Percentage of High School Students who **Ate Fruit or Drank 100% Fruit Juices Two or More Times Per Day** in the Last Week, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	22.7	23.4	22.6	21.2	17.9
Male*	26.7	24.8	23.4	19.7	17.9

Female Male

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



	2013	2015	2017	2019	2021
Black	32.3	27.8	22.4	33.4	23.6
Hispanic/Latino	23.9	25.2	29.9	20.5	19.2
White*	23.1	22.8	22.1	17.2	17.3

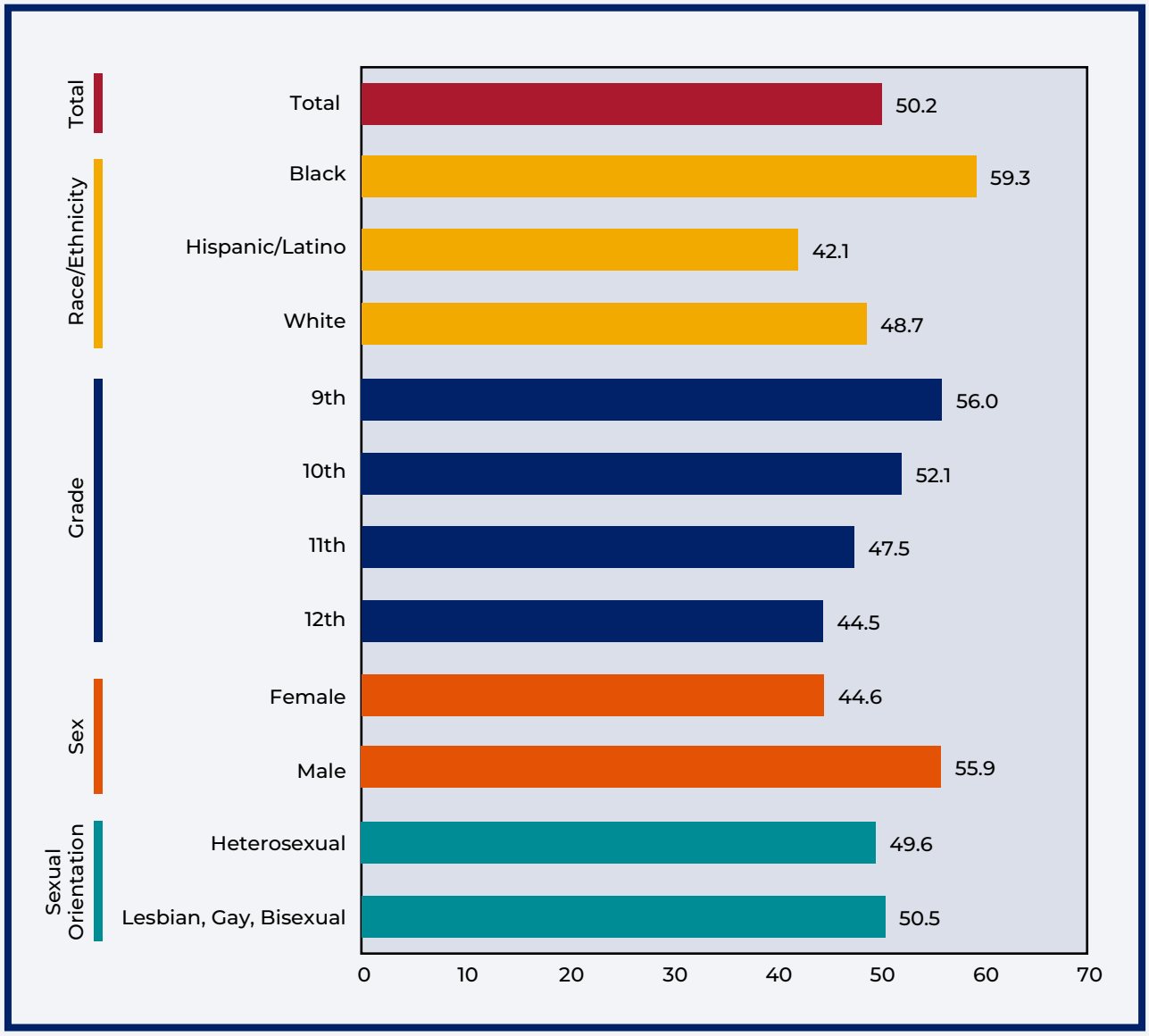
Black Hispanic/Latino White

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Did Not Eat Green Salad

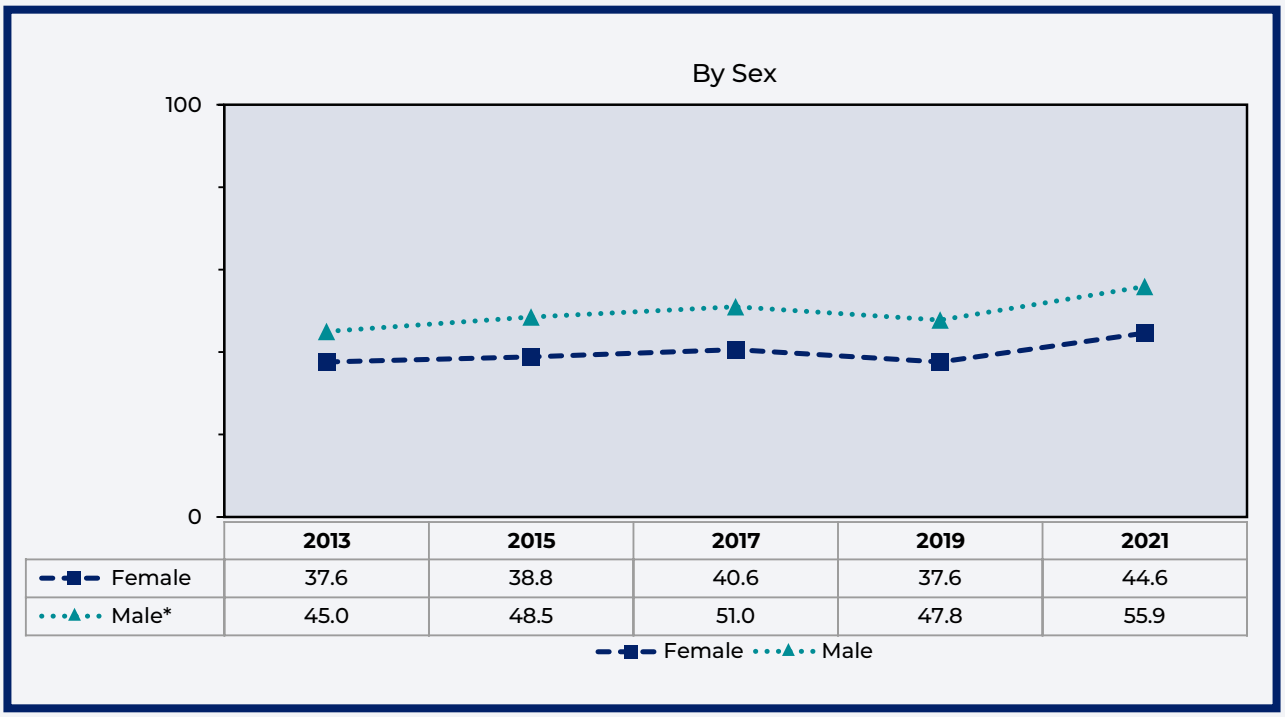
The prevalence for male students was higher than for female students. Black students were less likely to have eaten a salad in the past week than white and Hispanic students.

Percentage of High School Students who **Did Not Eat Green Salad** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021



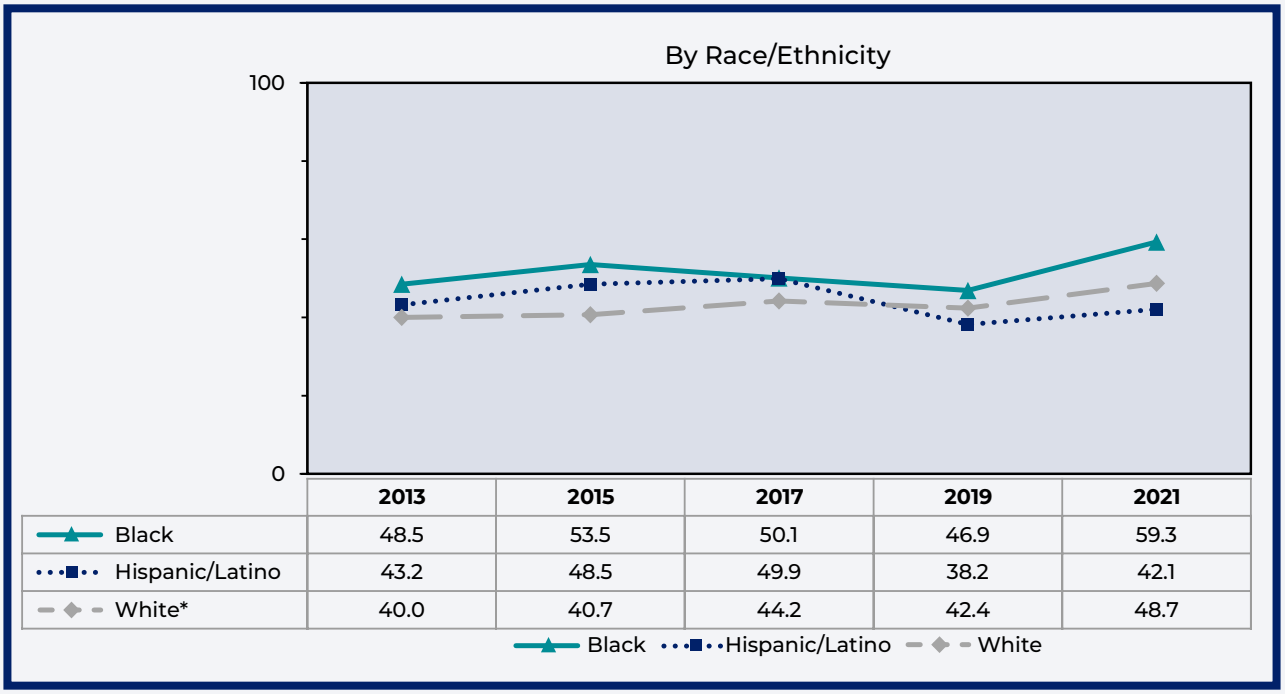
†M > F; B > H, B > W (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Did Not Eat Green Salad** in the Last Week, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	37.6	38.8	40.6	37.6	44.6
Male*	45.0	48.5	51.0	47.8	55.9

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



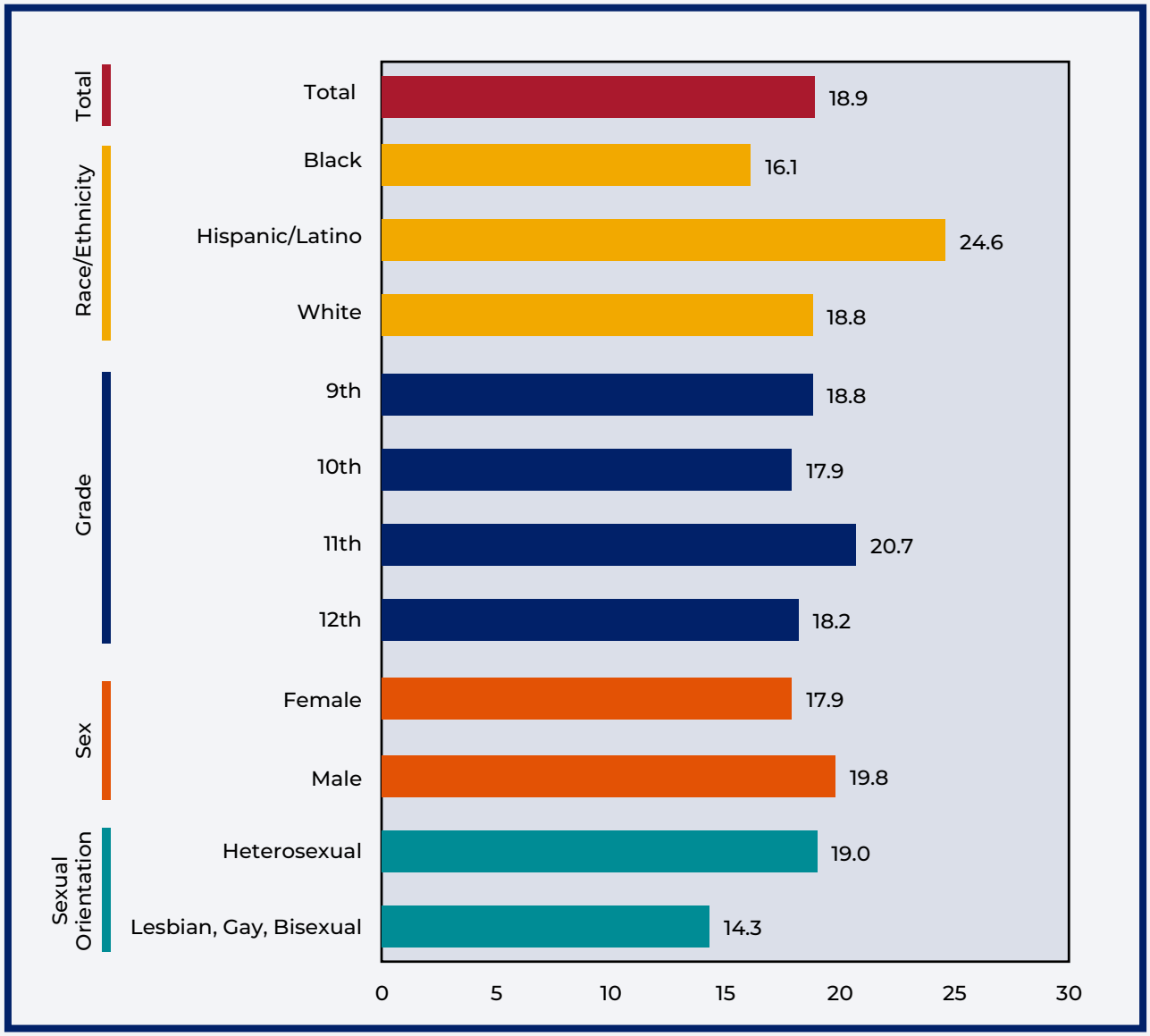
	2013	2015	2017	2019	2021
Black	48.5	53.5	50.1	46.9	59.3
Hispanic/Latino	43.2	48.5	49.9	38.2	42.1
White*	40.0	40.7	44.2	42.4	48.7

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Ate Vegetables

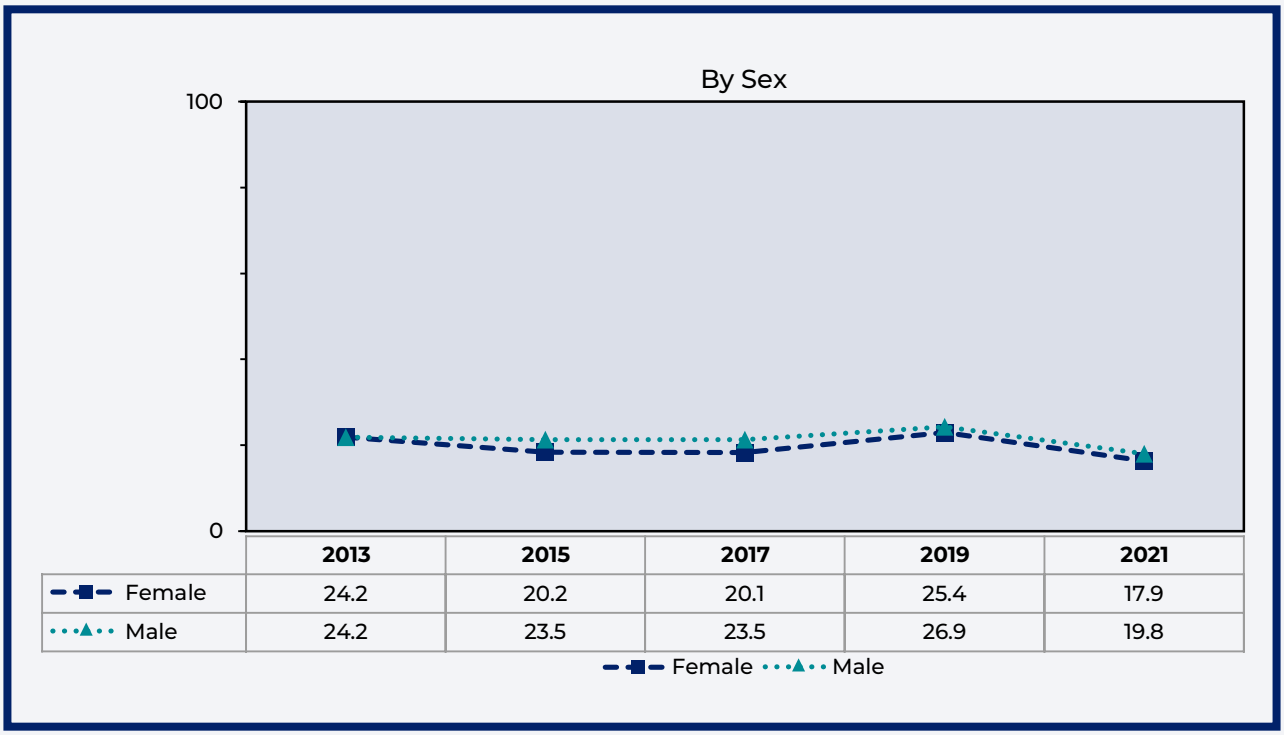
There were no significant differences in high school students who ate vegetables between sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Ate Vegetables Two or More Times Per Day** in the Last Week,* by Demographic Characteristics, Missouri, YRBS, 2021

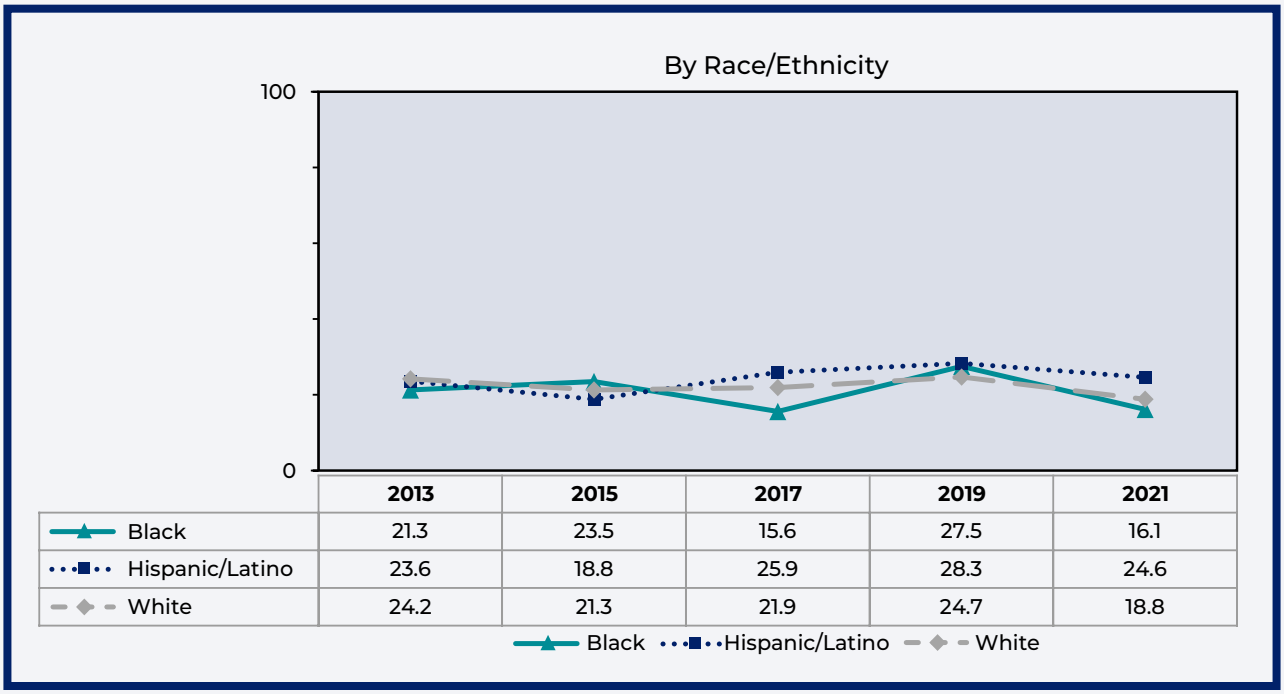


*Green salad, potatoes (excluding french fries, fried potatoes or potato chips), carrots or other vegetables in the 7 days before the survey.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Ate Vegetables Two or More Times Per Day** in the Last Week, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	24.2	20.2	20.1	25.4	17.9
Male	24.2	23.5	23.5	26.9	19.8

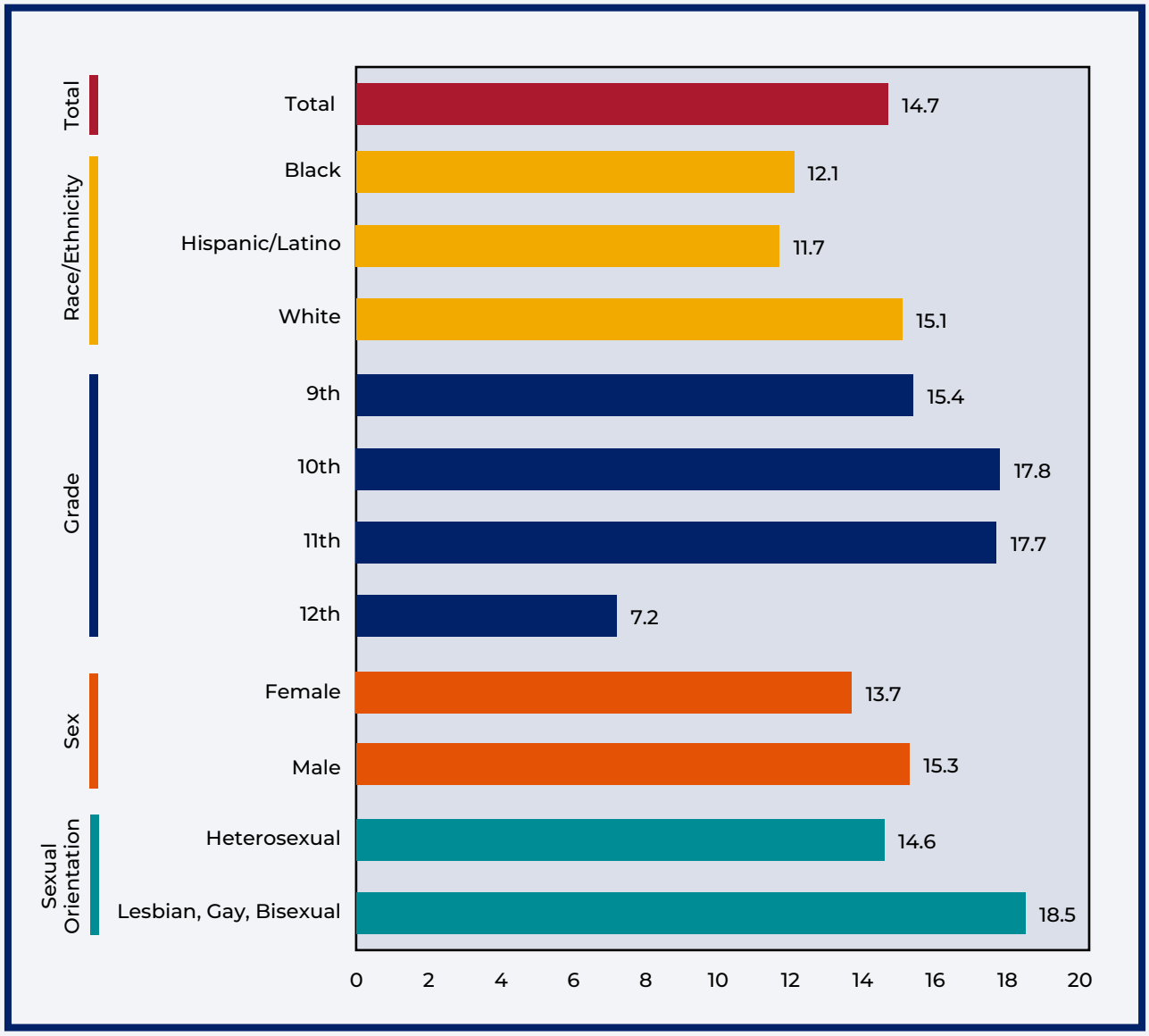


	2013	2015	2017	2019	2021
Black	21.3	23.5	15.6	27.5	16.1
Hispanic/Latino	23.6	18.8	25.9	28.3	24.6
White	24.2	21.3	21.9	24.7	18.8

Drank Soda

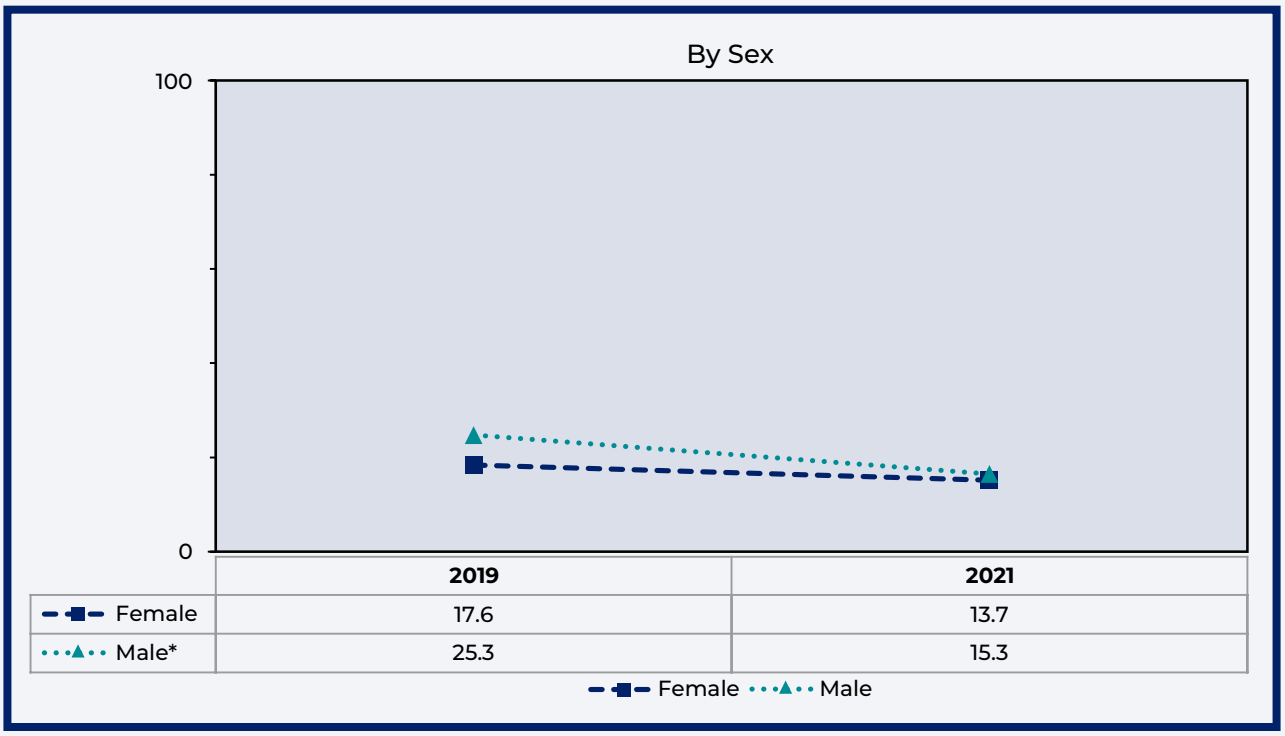
The prevalence for 9th, 10th and 11th grade students who drank a soda one or more times per day in the last week were all significantly higher than for 12th grade students.

Percentage of High School Students who **Drank a Can, Bottle or Glass of Soda One or More Times Per Day*** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021

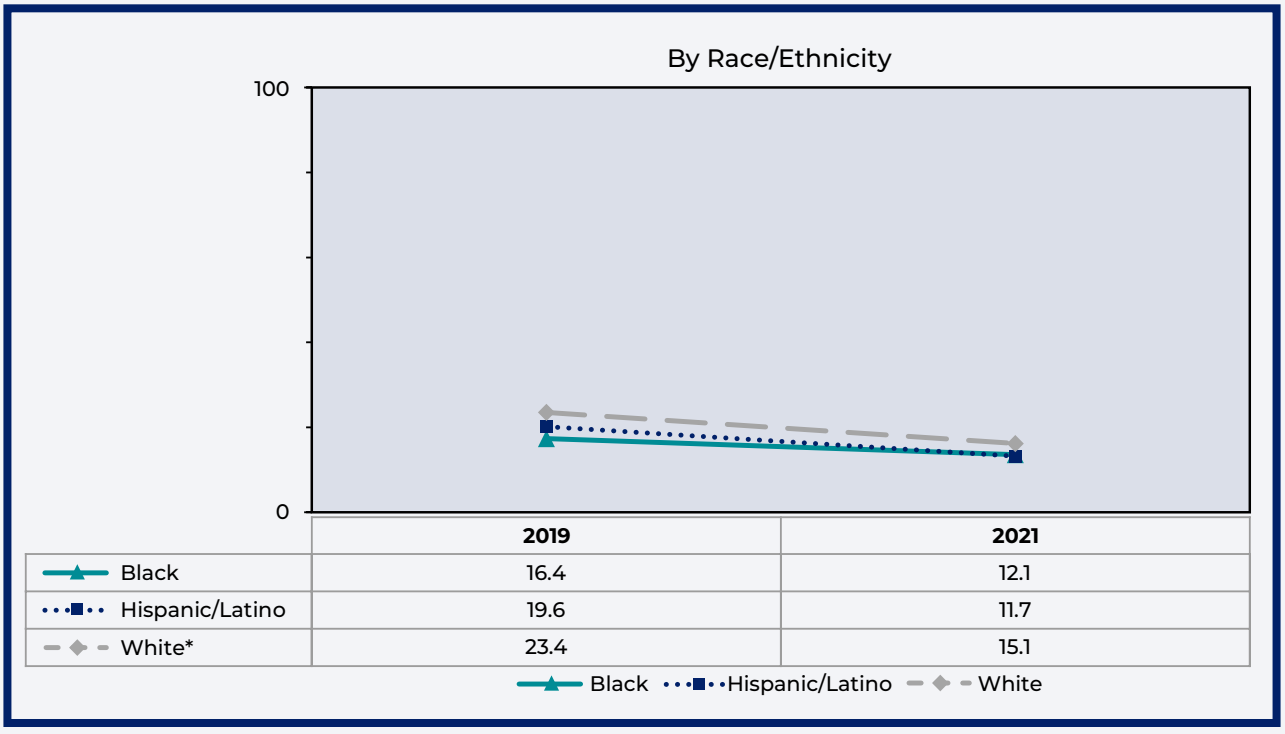


*Such as Coke, Pepsi or Sprite (not counting diet soda) in the 7 days before the survey.
†9th > 12th, 10th > 12th, 11th > 12th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Drank a Can, Bottle or Glass of Soda One or More Times Per Day** in the Last Week, Missouri, YRBS, 2013-2021



*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

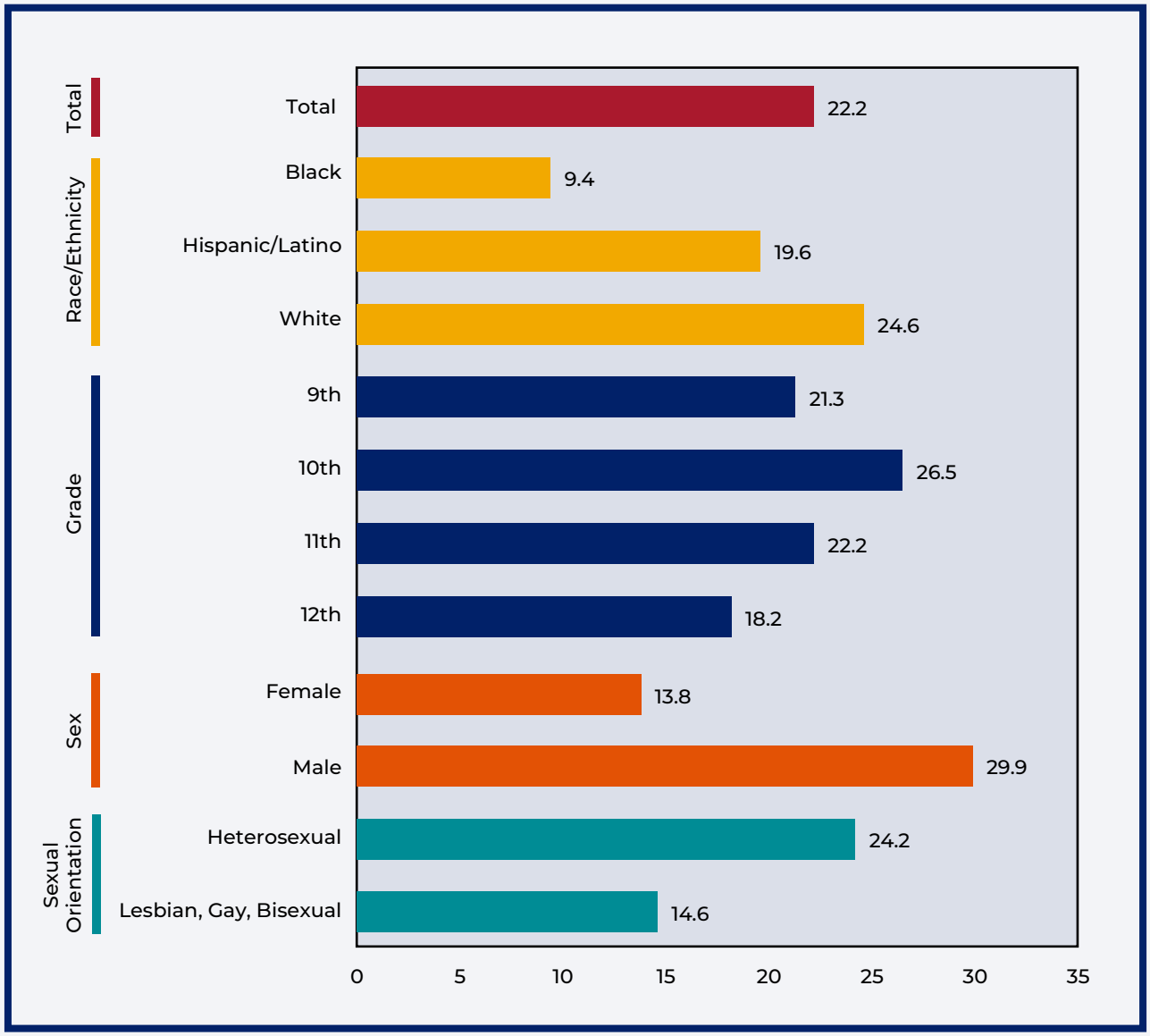


*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Drank Milk

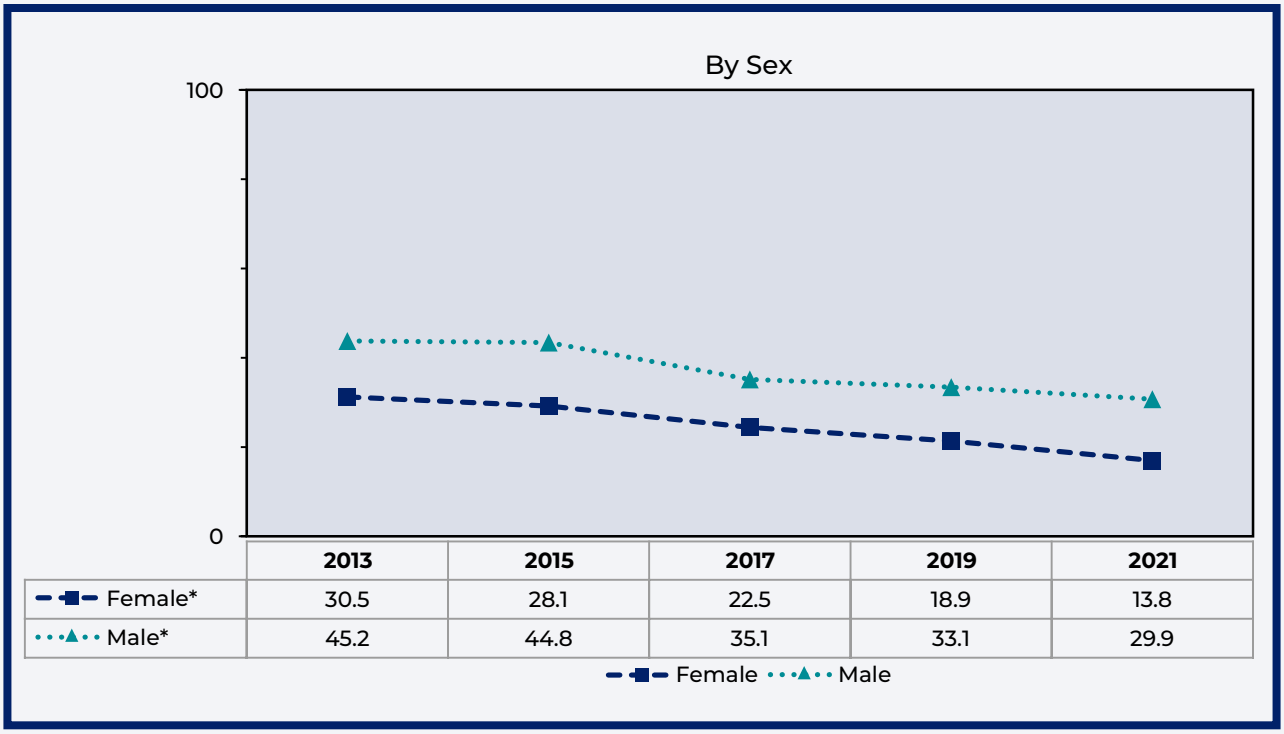
The prevalence for male students was higher than for female students. The prevalence for white students was higher than for Black students.

Percentage of High School Students who **Drank One or More Glasses of Milk Per Day*** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021



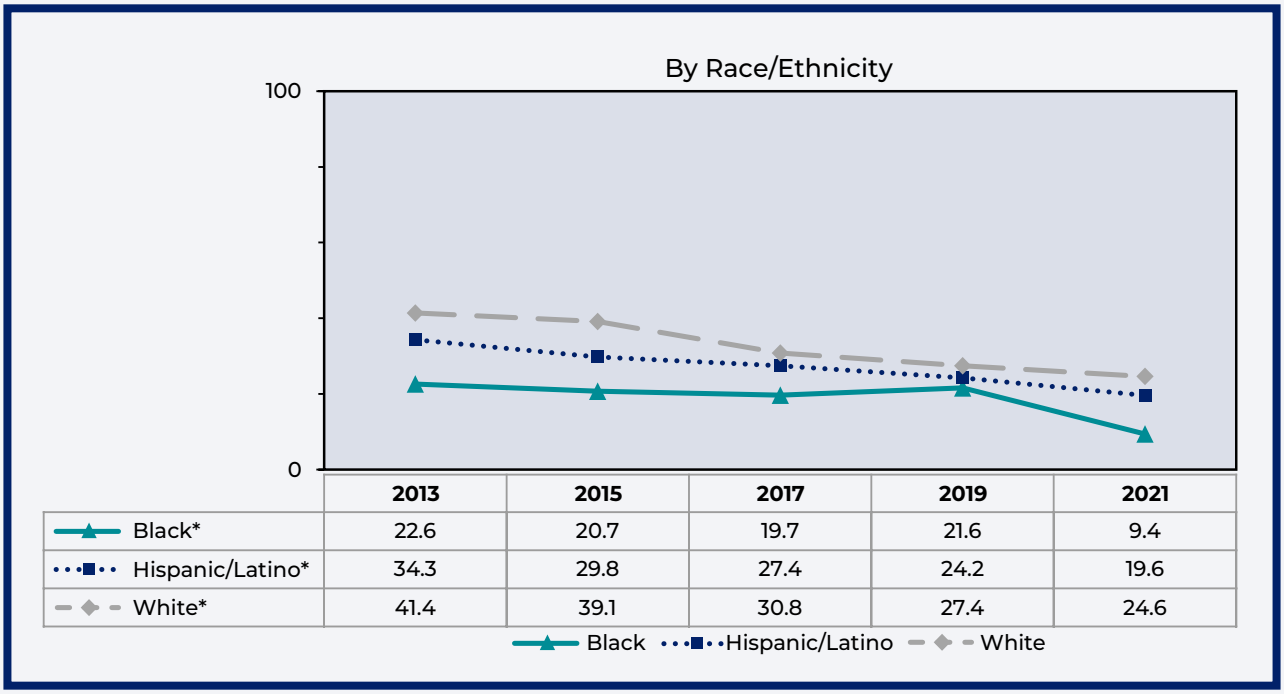
*Counting the milk they drank from a glass or cup, from a carton (counting the half pint of milk served at school as equal to one glass) or with cereal in the 7 days before the survey.
†M > F; W > B (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Drank One or More Glasses of Milk Per Day** in the Last Week, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	30.5	28.1	22.5	18.9	13.8
Male*	45.2	44.8	35.1	33.1	29.9

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.



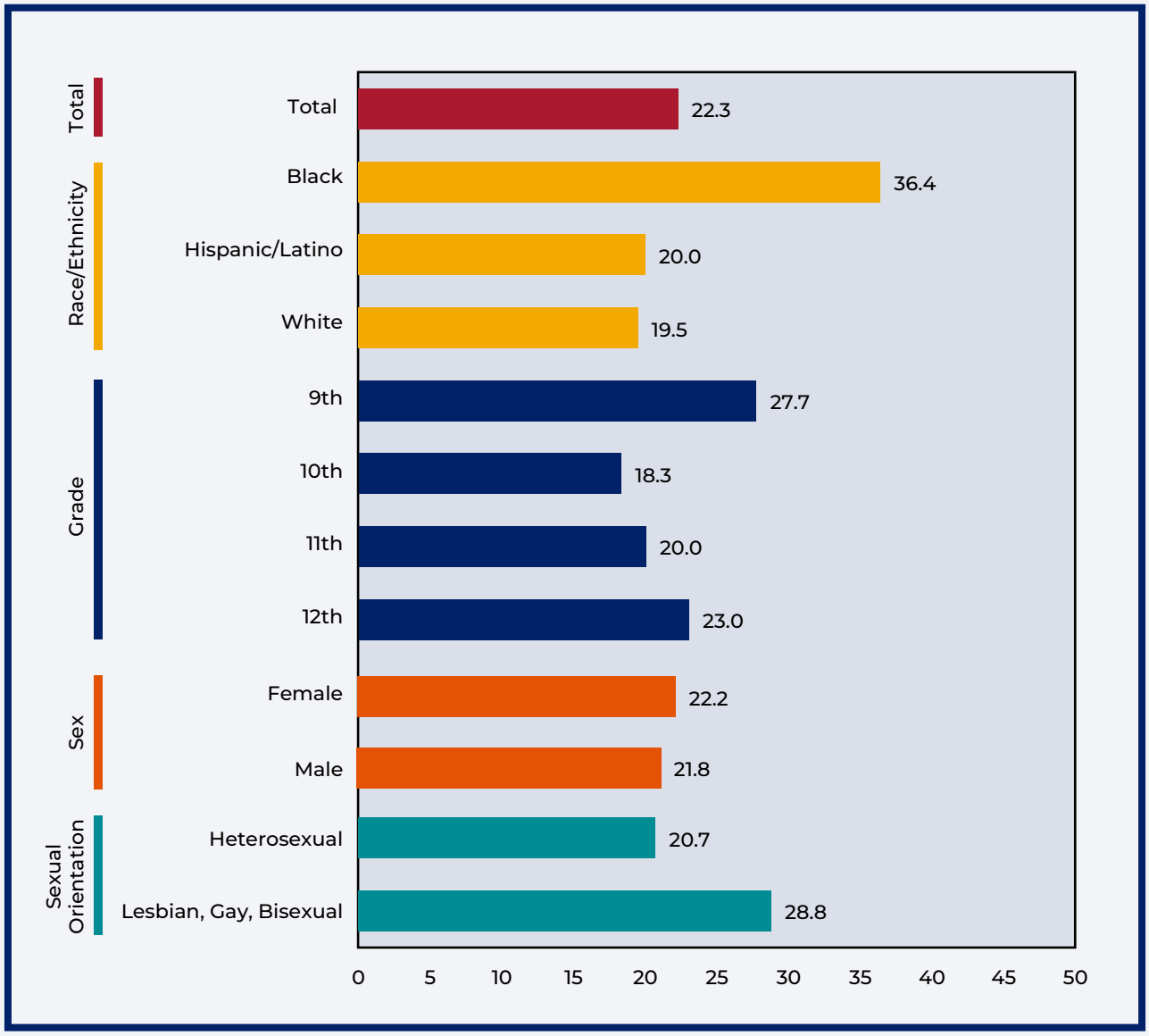
	2013	2015	2017	2019	2021
Black*	22.6	20.7	19.7	21.6	9.4
Hispanic/Latino*	34.3	29.8	27.4	24.2	19.6
White*	41.4	39.1	30.8	27.4	24.6

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, p < 0.05.

Breakfast

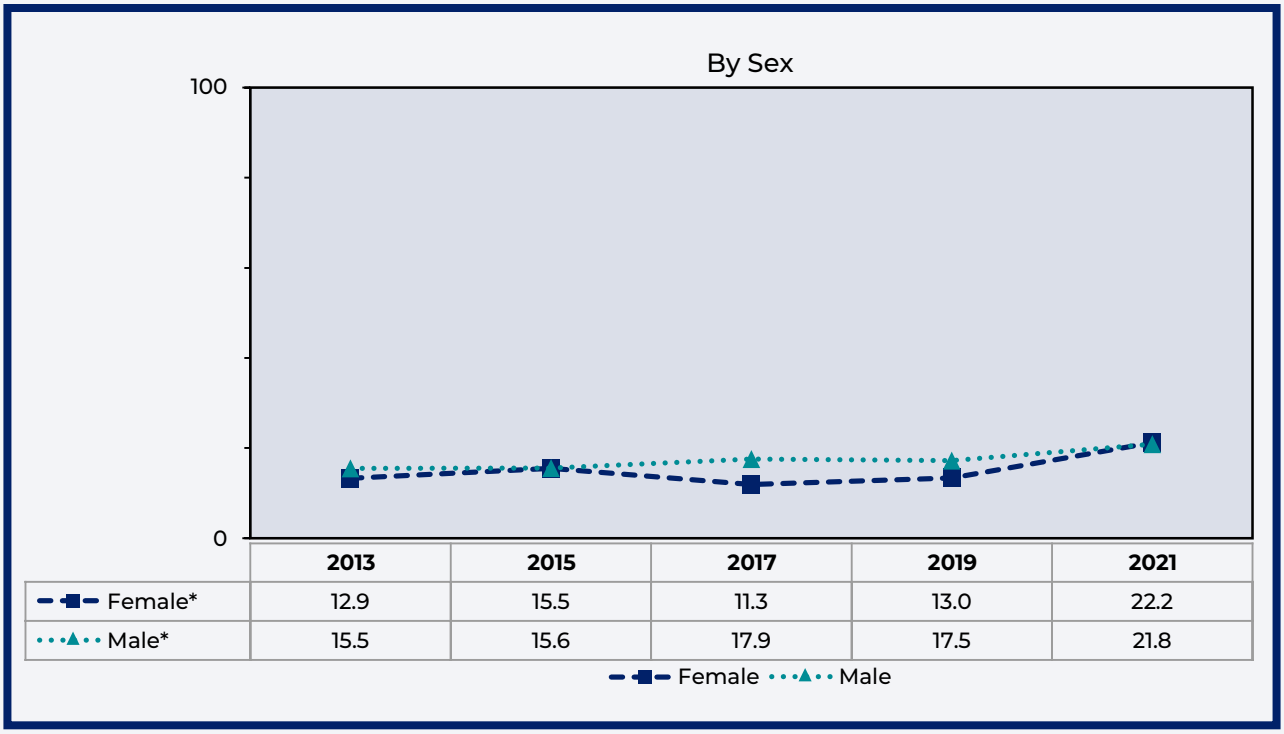
The prevalence for 9th grade students who did not eat breakfast in the last week was higher than for 10th grade students. The prevalence for Black students was higher than for Hispanic students. The prevalence for Black students was higher than for white students.

Percentage of High School Students who **Did Not Eat Breakfast** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021



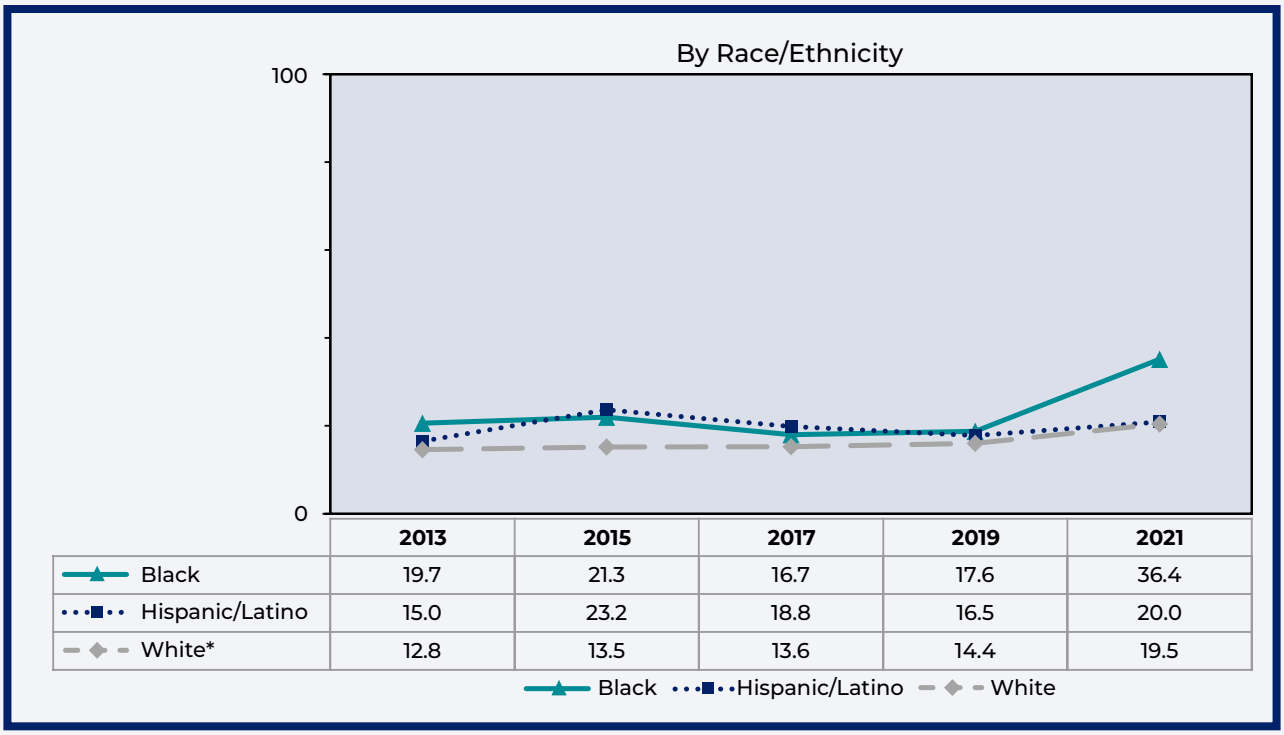
†9th > 10th; B > H, B > W (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Did Not Eat Breakfast** in the Last Week, Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female*	12.9	15.5	11.3	13.0	22.2
Male*	15.5	15.6	17.9	17.5	21.8

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



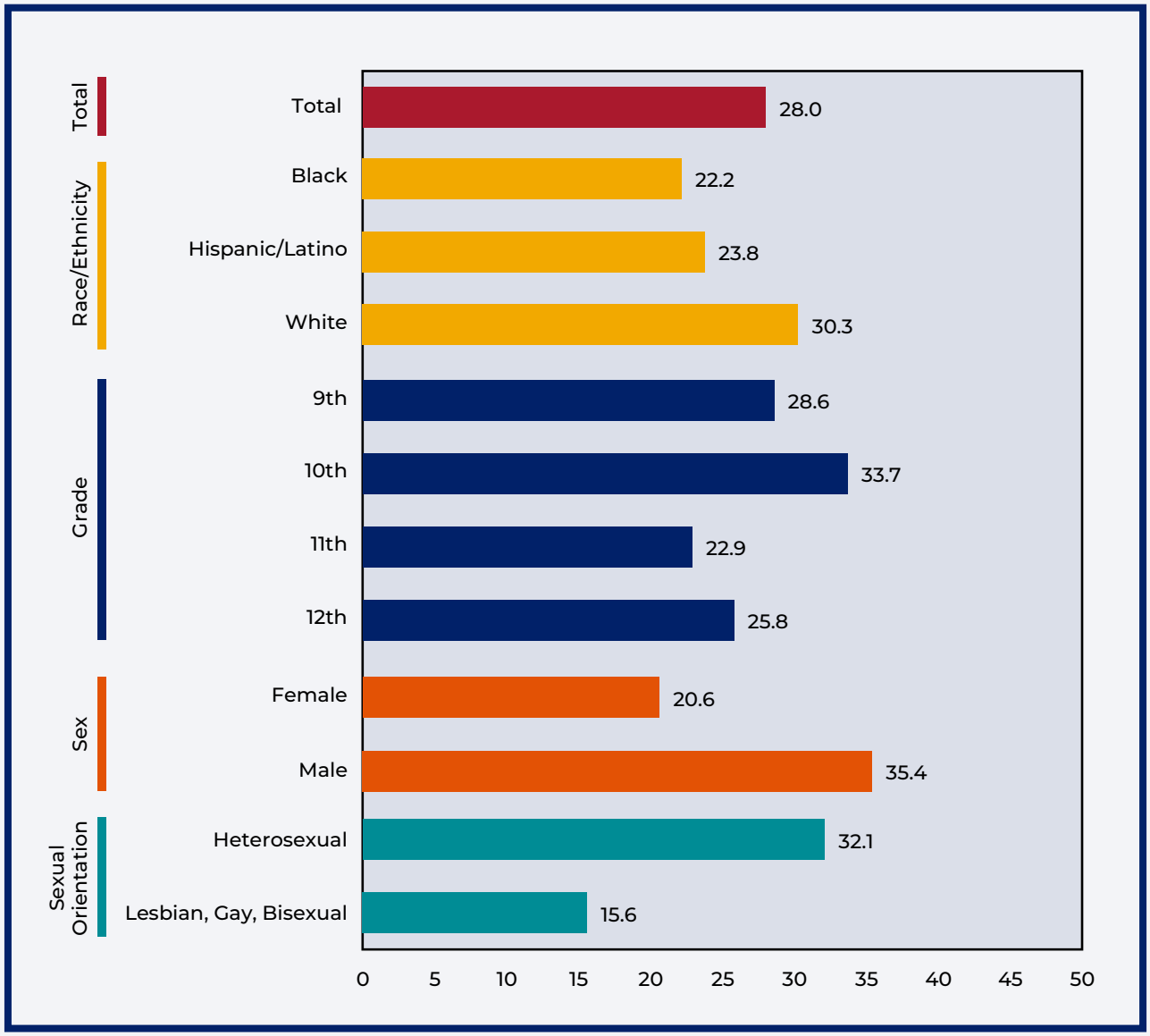
	2013	2015	2017	2019	2021
Black	19.7	21.3	16.7	17.6	36.4
Hispanic/Latino	15.0	23.2	18.8	16.5	20.0
White*	12.8	13.5	13.6	14.4	19.5

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Daily Exercise

The prevalence for male students was higher than for female students of those who were physically active for at least 60 minutes per day on all 7 days. The prevalence for 10th grade students was higher than for 11th grade students.

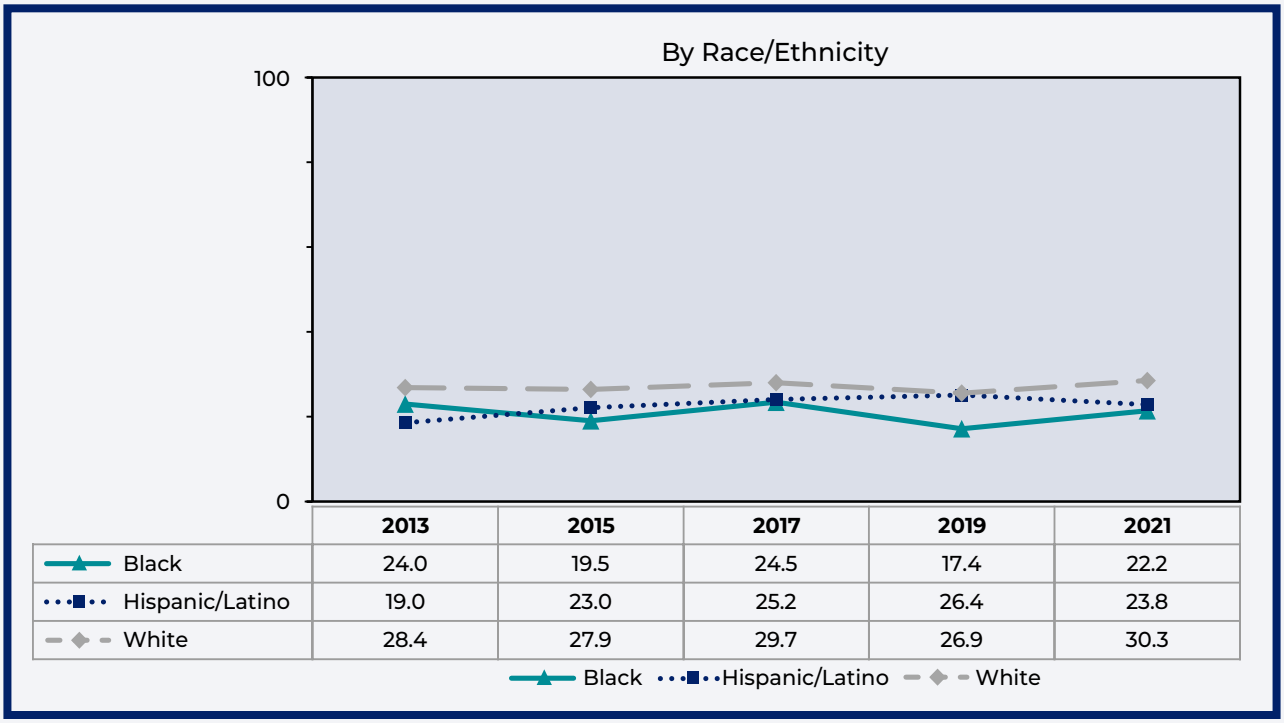
Percentage of High School Students who **Were Physically Active for at Least 60 Minutes Per Day on All 7 days*** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021



*In any kind of physical activity that increased their heart rate and made them breathe harder in the 7 days before the survey.
†M > F; 10th > 11th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Were Physically Active for at Least 60 Minutes Per Day on All 7 days** in the Last Week, Missouri, YRBS, 2013-2021

	2013	2015	2017	2019	2021
Female	18.0	19.0	21.8	21.3	20.6
Male	36.2	33.5	35.5	29.1	35.4

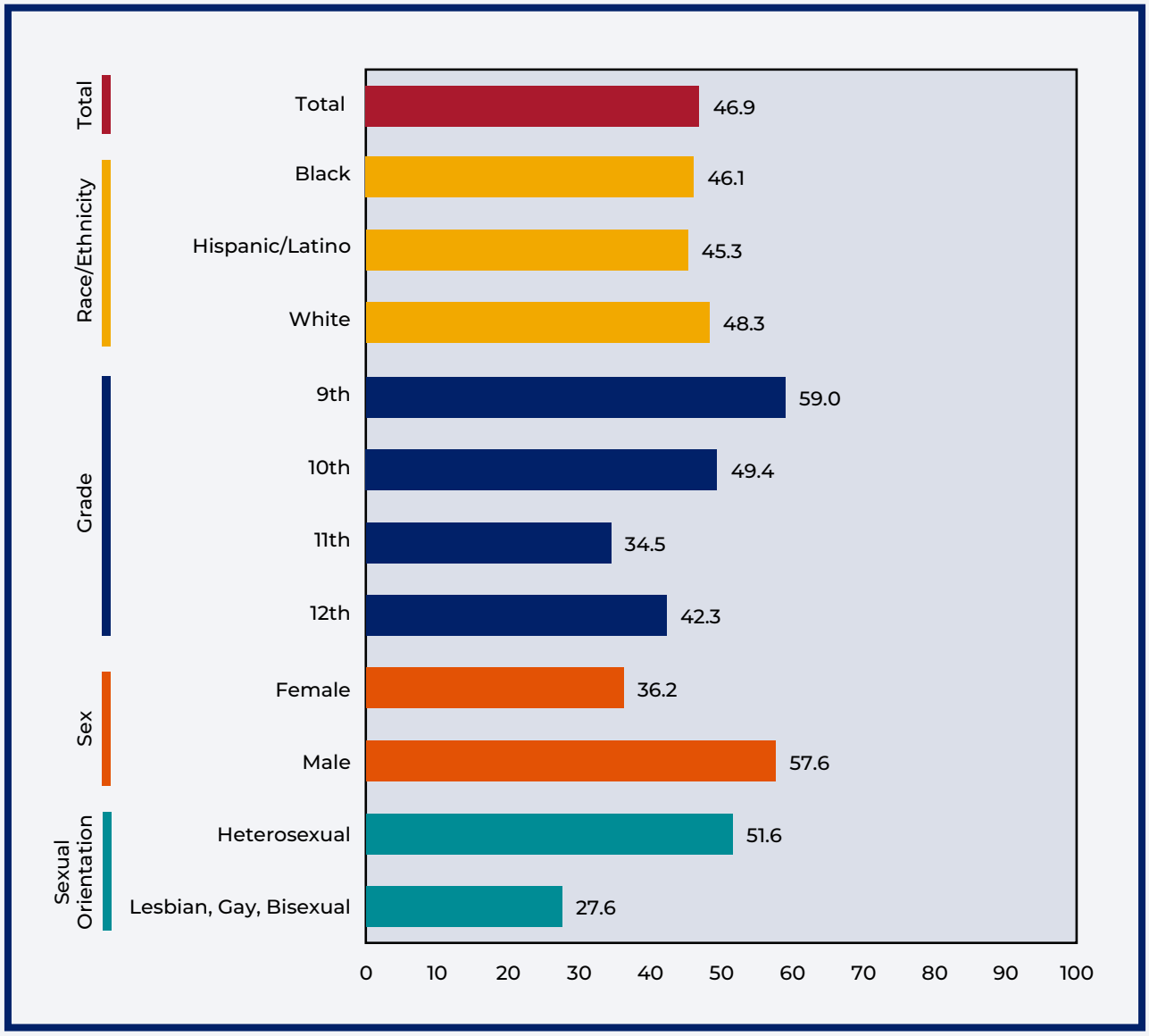


	2013	2015	2017	2019	2021
Black	24.0	19.5	24.5	17.4	22.2
Hispanic/Latino	19.0	23.0	25.2	26.4	23.8
White	28.4	27.9	29.7	26.9	30.3

Attended PE Classes

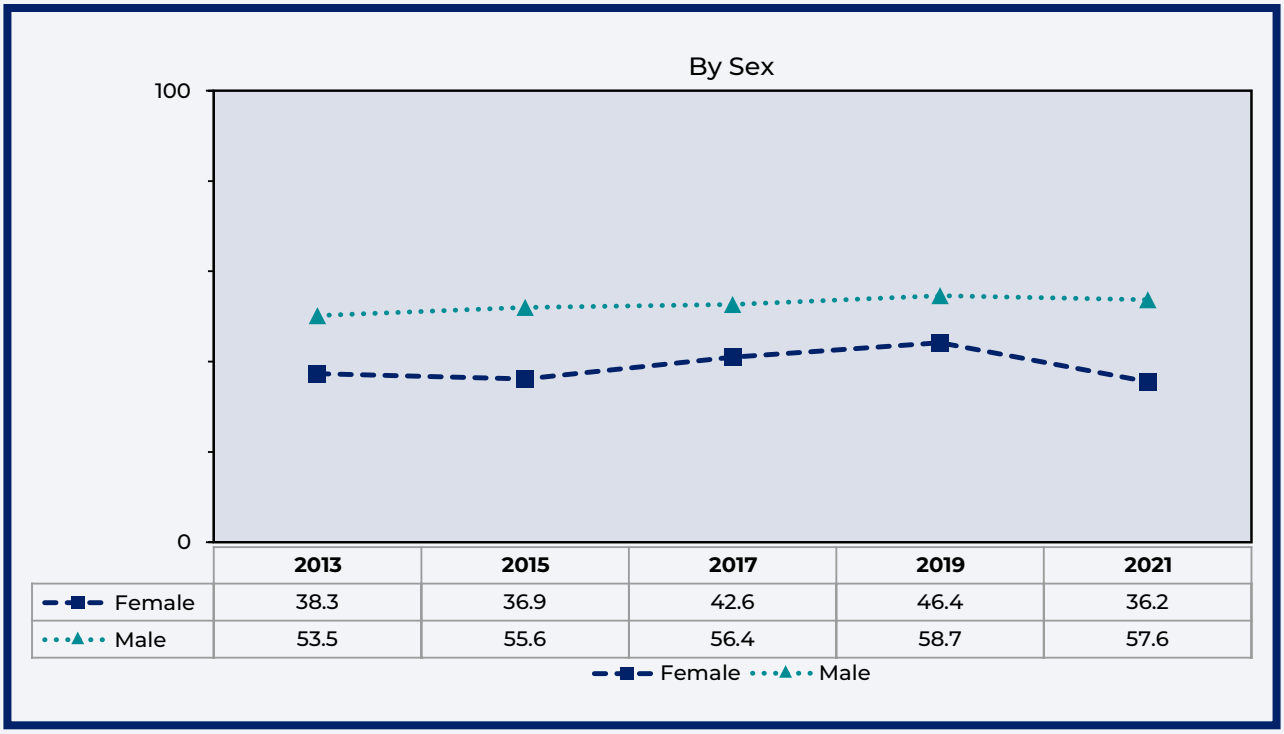
The prevalence for male students was higher than for female students. Heterosexual students were more likely to attend PE classes than students who identified as lesbian, gay or bisexual. Students in 9th grade had a higher prevalence than 11th and 12th grade students.

Percentage of High School Students who **Attended Physical Education (PE) Classes on One or More Days,*** by Demographic Characteristics,† Missouri, YRBS, 2021

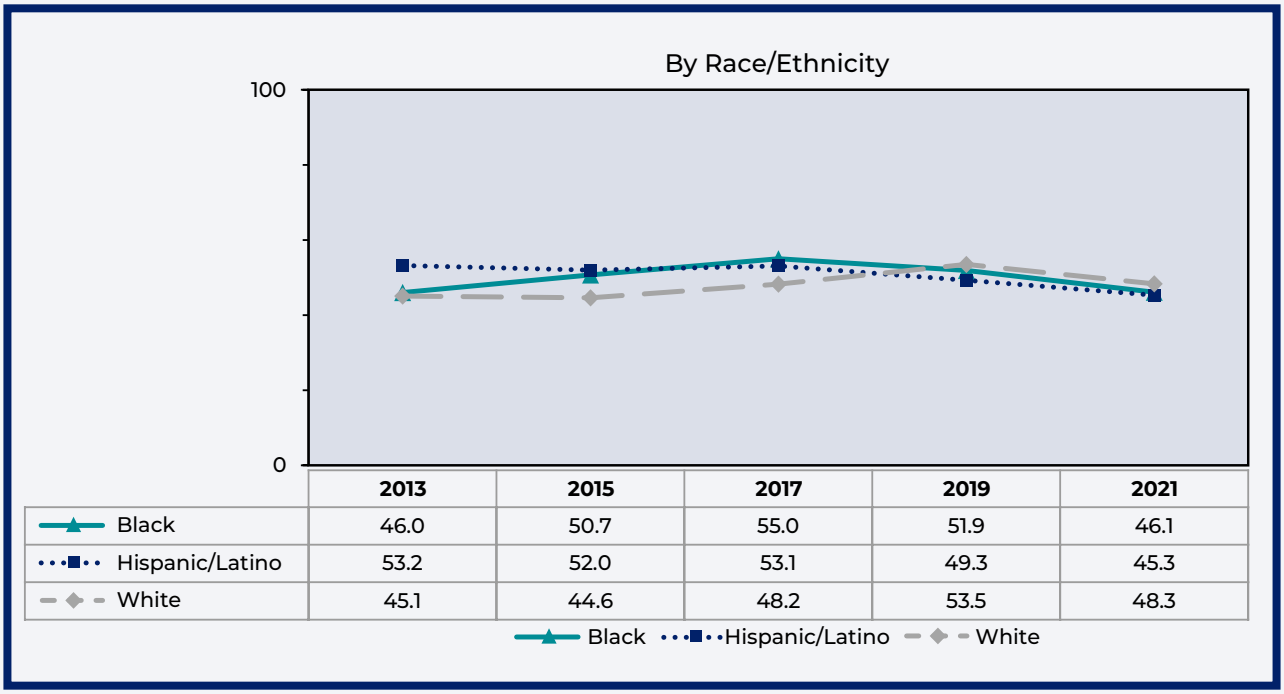


*In an average week when they were in school.
†M > F; 9th > 11th, 9th > 12th; H > LGB (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Attended Physical Education (PE) Classes on One or More Days,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	38.3	36.9	42.6	46.4	36.2
Male	53.5	55.6	56.4	58.7	57.6

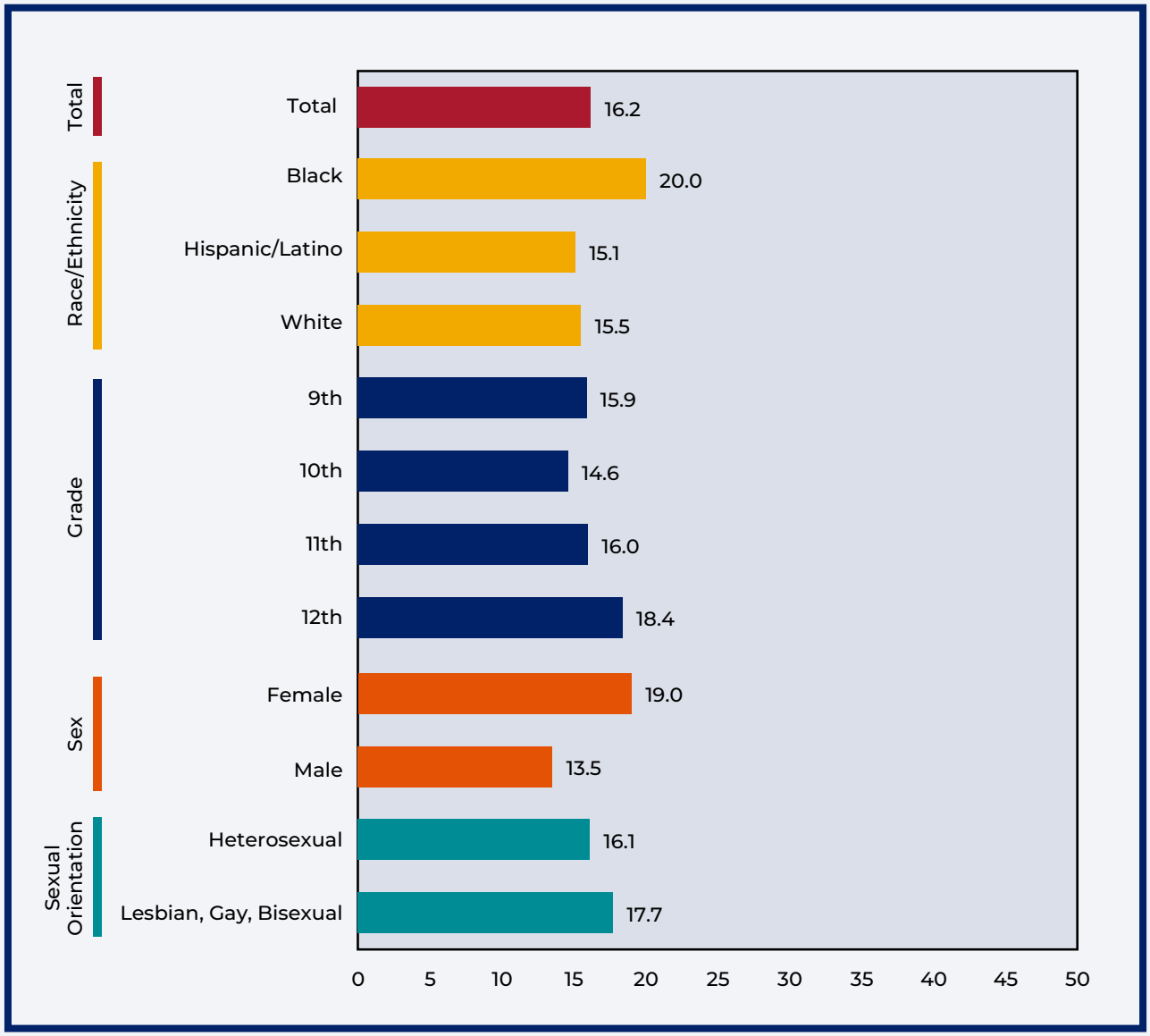


	2013	2015	2017	2019	2021
Black	46.0	50.7	55.0	51.9	46.1
Hispanic/Latino	53.2	52.0	53.1	49.3	45.3
White	45.1	44.6	48.2	53.5	48.3

Overweight

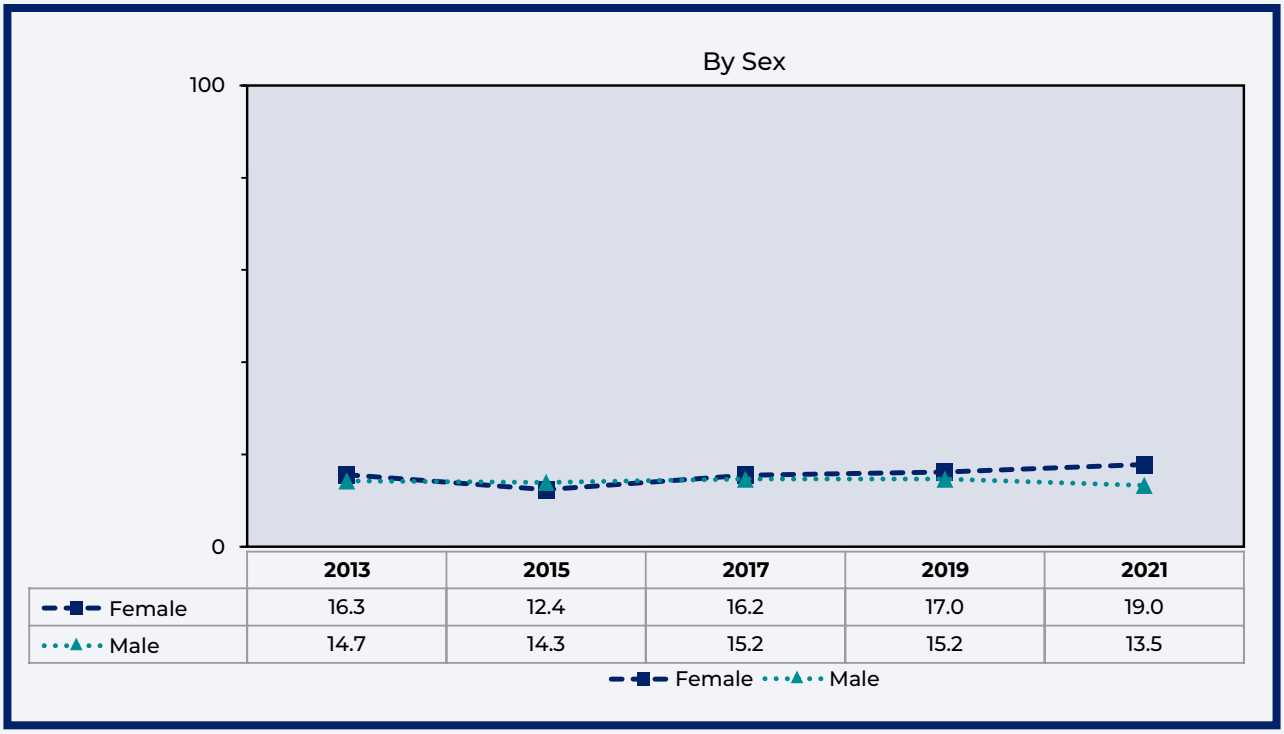
There were no significant differences in overweight status when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Were Overweight,*** by Demographic Characteristics, Missouri, YRBS, 2021

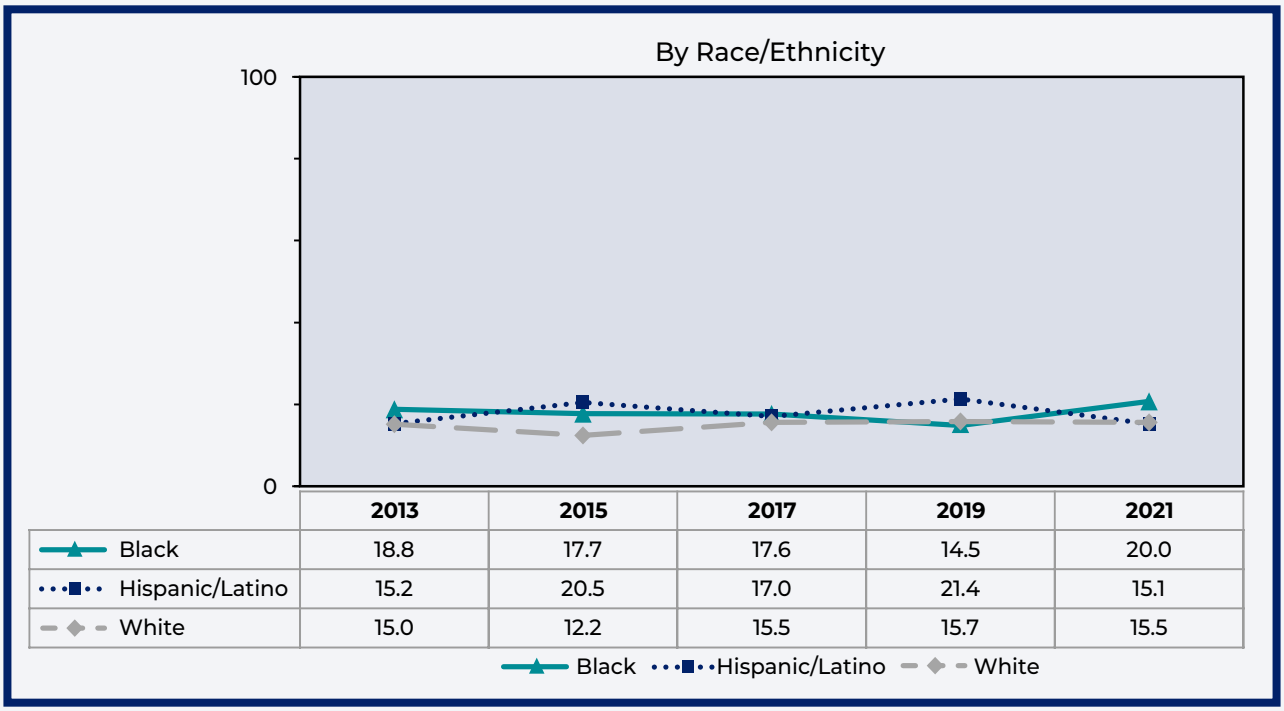


* ≥ 85th percentile but < 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts. In 2017, new, slightly different ranges were used to calculate biologically implausible responses to height and weight questions.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Were Overweight,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	16.3	12.4	16.2	17.0	19.0
Male	14.7	14.3	15.2	15.2	13.5

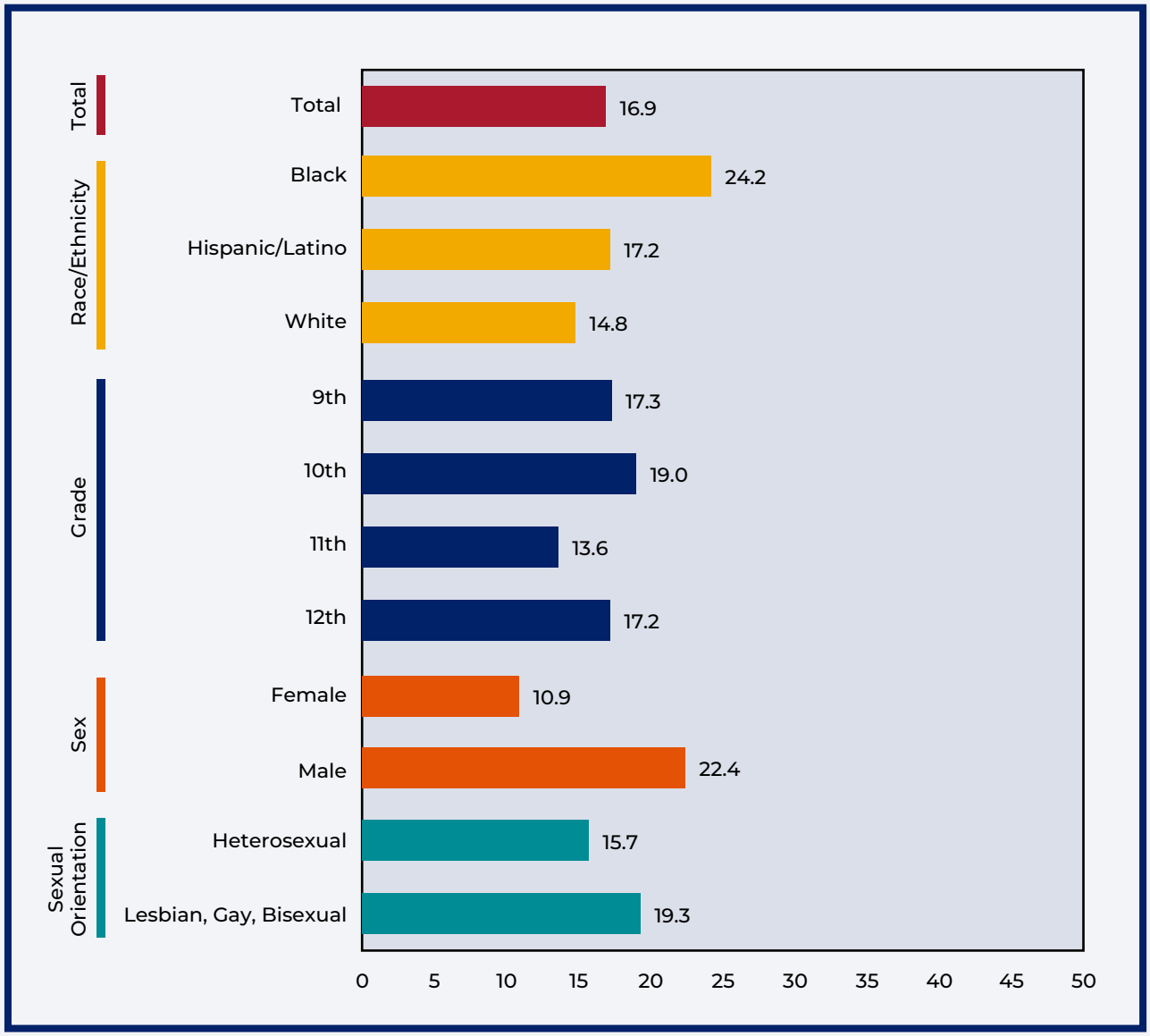


	2013	2015	2017	2019	2021
Black	18.8	17.7	17.6	14.5	20.0
Hispanic/Latino	15.2	20.5	17.0	21.4	15.1
White	15.0	12.2	15.5	15.7	15.5

Obesity

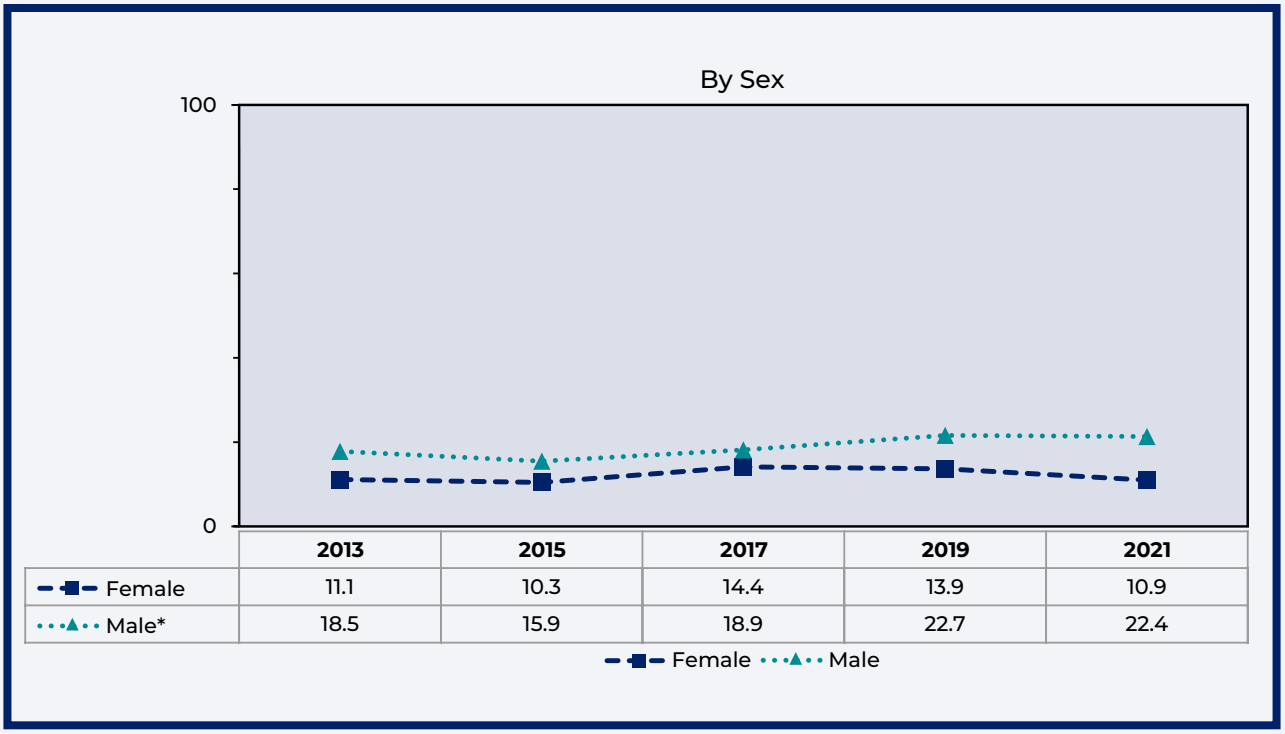
The prevalence of obesity for male students was higher than for female students. The prevalence for 10th grade students was higher than for 11th grade students. The prevalence for Black students was higher than for white students.

Percentage of High School Students who **Were Obese,*** by Demographic Characteristics,† Missouri, YRBS, 2021



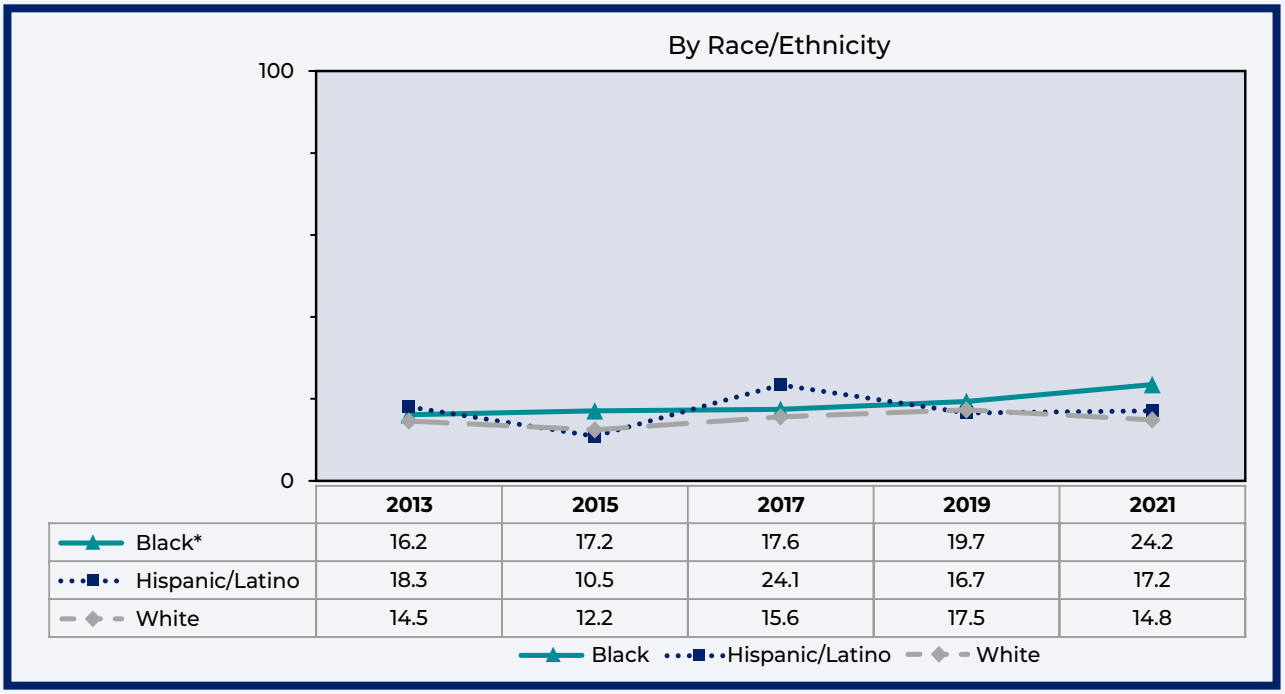
* < 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts. In 2017, new, slightly different ranges were used to calculate biologically implausible responses to height and weight questions.
†M > F; 10th > 11th; B > W (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Were Obese,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	11.1	10.3	14.4	13.9	10.9
Male*	18.5	15.9	18.9	22.7	22.4

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



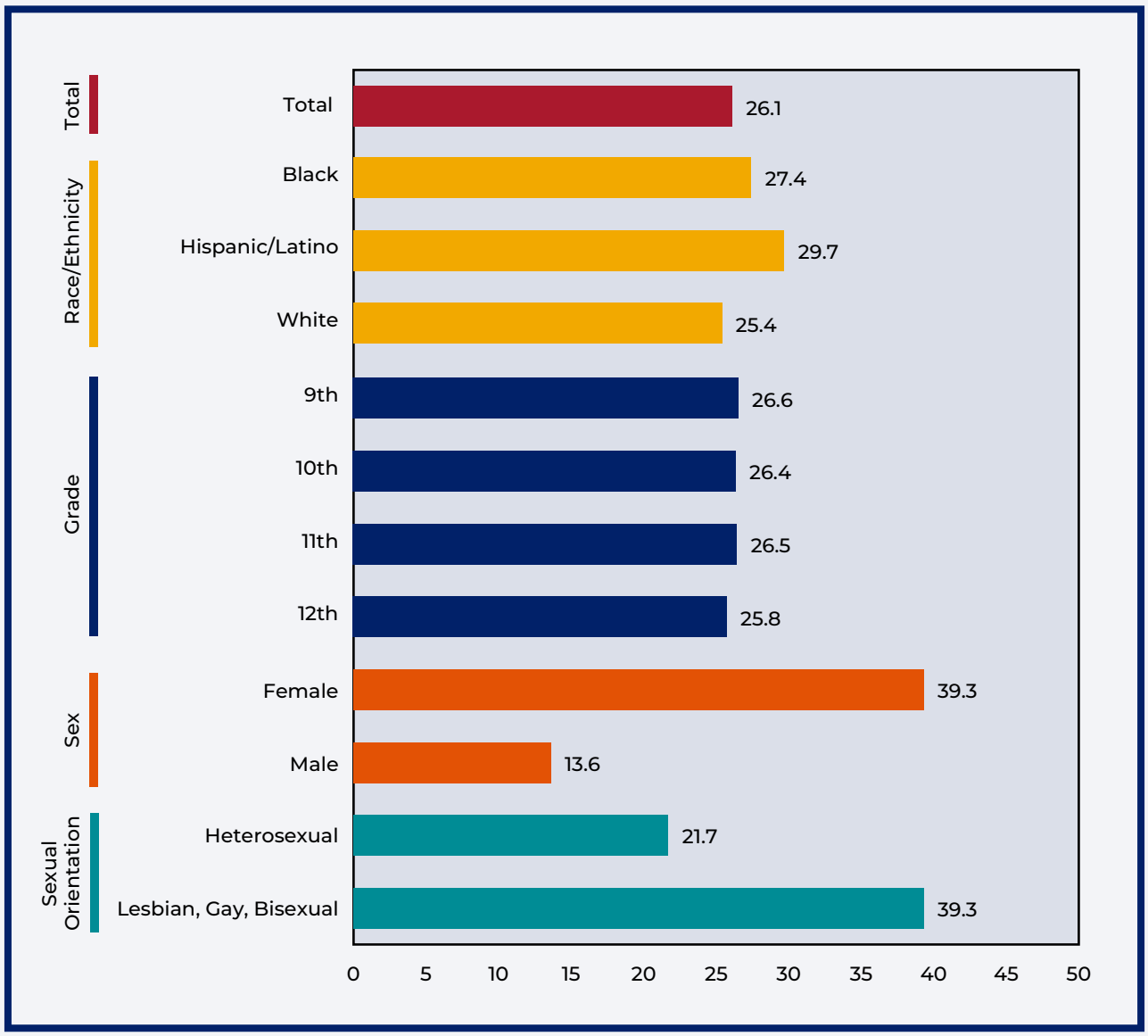
	2013	2015	2017	2019	2021
Black*	16.2	17.2	17.6	19.7	24.2
Hispanic/Latino	18.3	10.5	24.1	16.7	17.2
White	14.5	12.2	15.6	17.5	14.8

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Disordered Eating

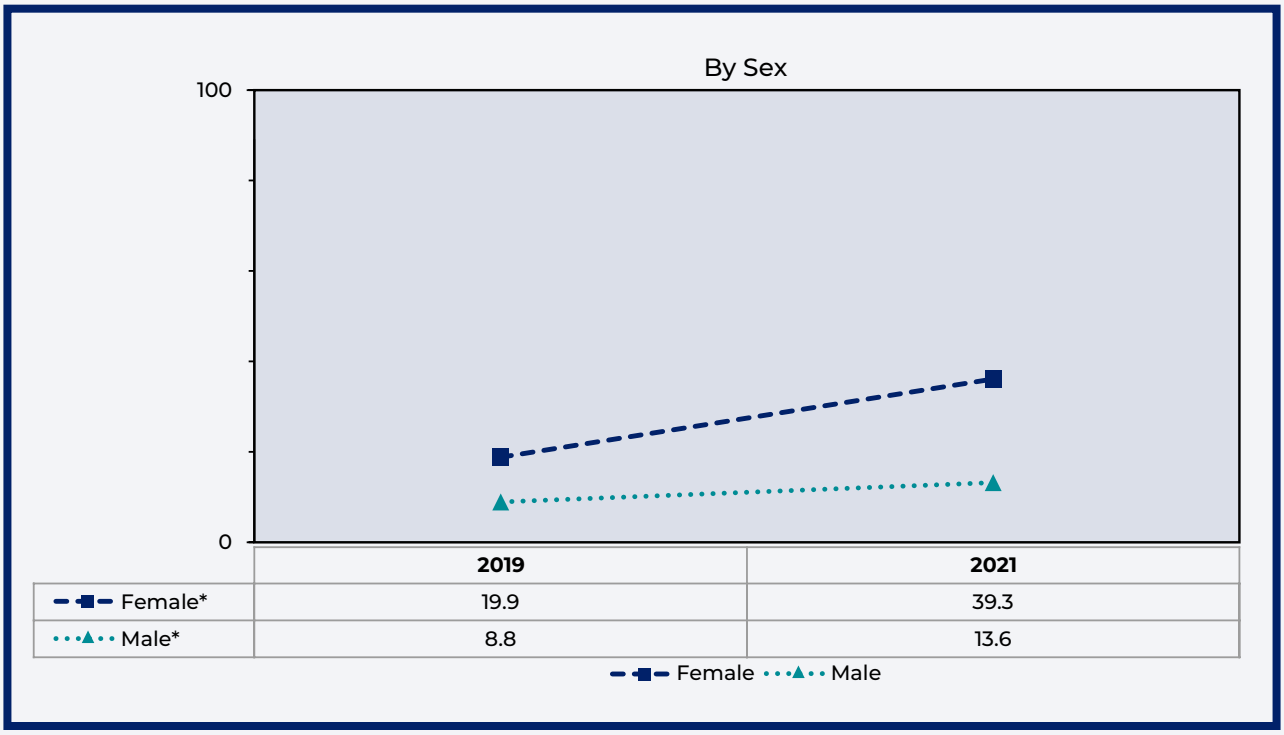
The prevalence of female students practicing some form of disordered eating was higher than for male students.

Percentage of High School Students who **Tried to Lose Weight or Keep From Gaining Weight by Going Without Eating for 24 Hours or More; Taking Some Diet Pills, Powders or Liquids; Vomiting or Taking Laxatives; Smoking Cigarettes; or Skipping Meals,*** by Demographic Characteristics,† Missouri, YRBS, 2021



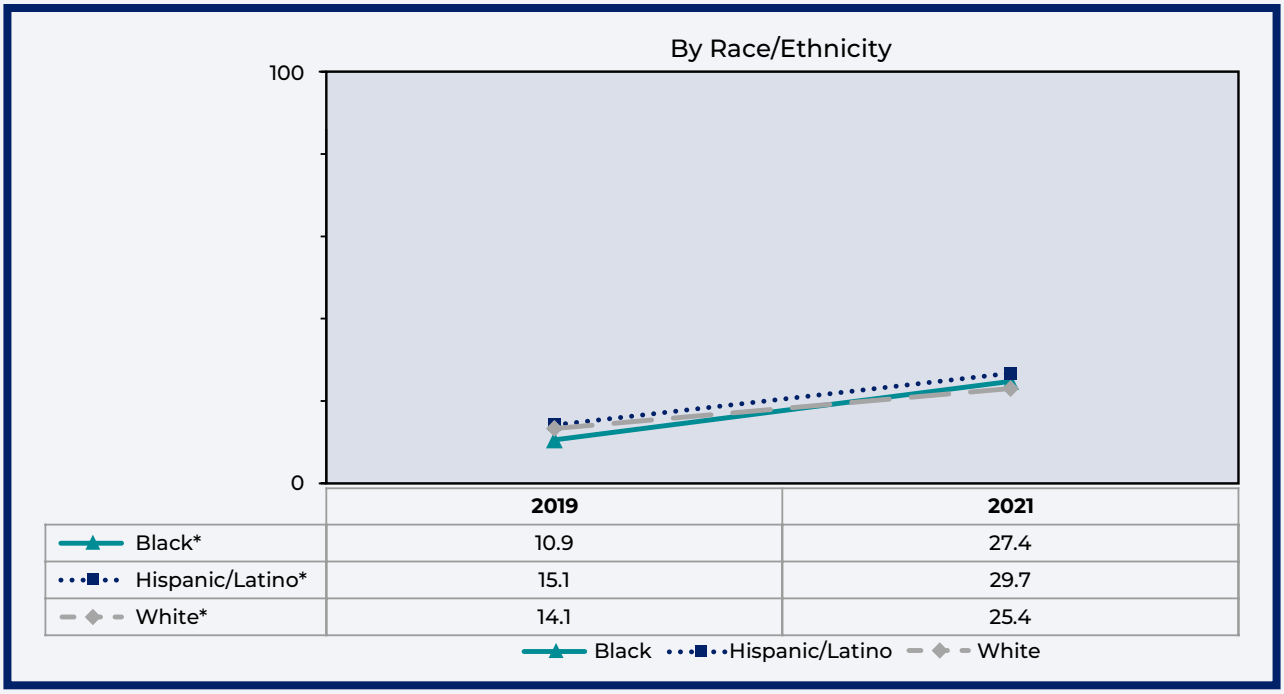
*In the 30 days before the survey.
†F > M (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Tried to Lose Weight or Keep From Gaining Weight by Going Without Eating for 24 Hours or More; Taking Some Diet Pills, Powders or Liquids; Vomiting or Taking Laxatives; Smoking Cigarettes; or Skipping Meals,** Missouri, YRBS, 2019-2021



	2019	2021
Female*	19.9	39.3
Male*	8.8	13.6

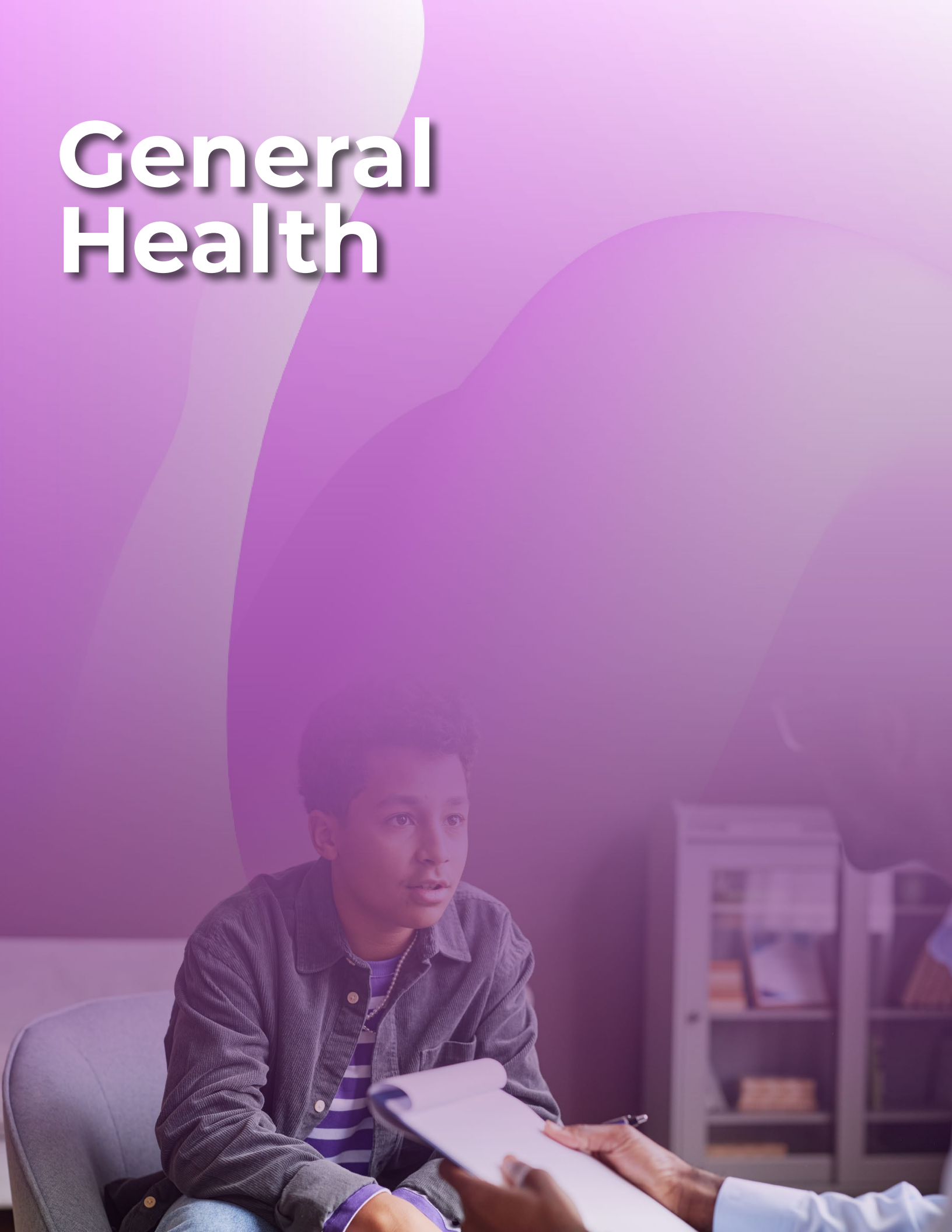
*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



	2019	2021
Black*	10.9	27.4
Hispanic/Latino*	15.1	29.7
White*	14.1	25.4

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

General Health



AT-A-GLANCE:
General Health

While other sections of this report cover adolescent health topics such as alcohol, tobacco use and sexual health, it is important to note that other general topics, such as a history of concussions or asthma, should be taken into consideration as well. They can play a vital role in establishing future patterns of adult health.[20] The following provides brief overviews on the importance of each topic.

Concussions from sports or physical activities, if managed properly until fully recovered, will not usually have any lasting effects. However, subsequent concussions before fully recovering puts adolescents at risk for long-term problems such as serious brain injuries.[21] The American Academy of Sleep Medicine recommends 8-10 hours of sleep each night for teenagers.[22] Not achieving enough sleep can put teens at higher risk for poor mental health, attention and behavior problems, injuries, diabetes and obesity.[23] Regular access to oral health care is important for prevention, early detection and control of oral diseases.[24] Skin damage is cumulative, meaning the more sunburns an adolescent has had, the greater the risk for skin cancer later in life.[25] The Skin Cancer Foundation reports that experiencing five or more blistering sunburns between ages 15 and 20 increases one's melanoma risk by 80% and nonmelanoma skin cancer risk by 68%.[26] Frequent asthma flare-ups can harm academic achievement and social/physical development.[27] Lastly, excessive digital media use by children and adolescents appears as a major factor which may hamper concentration, social coping and attachment, and physical health.[28] Understanding adolescent development, environmental influences, risk and protective factors is key to promoting optimal health in youth.[29]

Percentage of High School Students who:	2013	2015	2017	2019	2021	Trend*
Ever had a concussion	-	-	16.0	19.2	12.4	◆
Recently saw a dentist	-	69.2	69.9	68.5	68.6	◆
Got 8 or more hours of sleep	-	27.4	20.3	21.8	22.0	◆
Recently had a sunburn	-	-	53.7	60.3	66.4	⬢
Ever diagnosed with asthma	24..1	22.0	26.7	23.8	23.7	◆
Currently have asthma	16.5	13.8	17.1	18.0	17.1	◆
Reported 3 or more hours of screen time per day	-	-	-	-	73.8	-

*Based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.
-Indicates the question was not asked that year or insufficient data was available to establish a trend.

⬢ In wrong direction
◆ No change
⛨ In right direction

SUMMARY OF RESULTS:
General Health

From 2013 to 2021, the general health indicators remained relatively stable, with the exception of an increase in the number of students who reported having a sunburn within the past year. However, it should be noted that the question regarding screen time was added to the YRBS in 2021, so results cannot be compared over time. It is important to highlight that 74% of high school students reported spending three or more hours per day on an electronic device, while only 22% of them are getting the recommended minimum of eight hours of sleep.

In 2021

Female students and lesbian, gay or bisexual students were more likely to spend at least three hours each day on a screen. Black students were the most likely to have had a concussion in the last year. 67% of high school students have visited a dentist in the past year. Students who identified as lesbian, gay or bisexual were getting less sleep than heterosexual students (13.3% vs. 23.9%). 80% of white students had a sunburn in the past year. This was significantly higher than Hispanic (54%) and Black students (15%). Black students were significantly more likely to have ever been diagnosed with asthma and still currently have asthma.

Trends

Fewer Hispanic students had a concussion in 2021 compared to 2017. The percentage of high school students who have had a sunburn in the past year increased from 53.7% in 2017 to 66.4% in 2021.

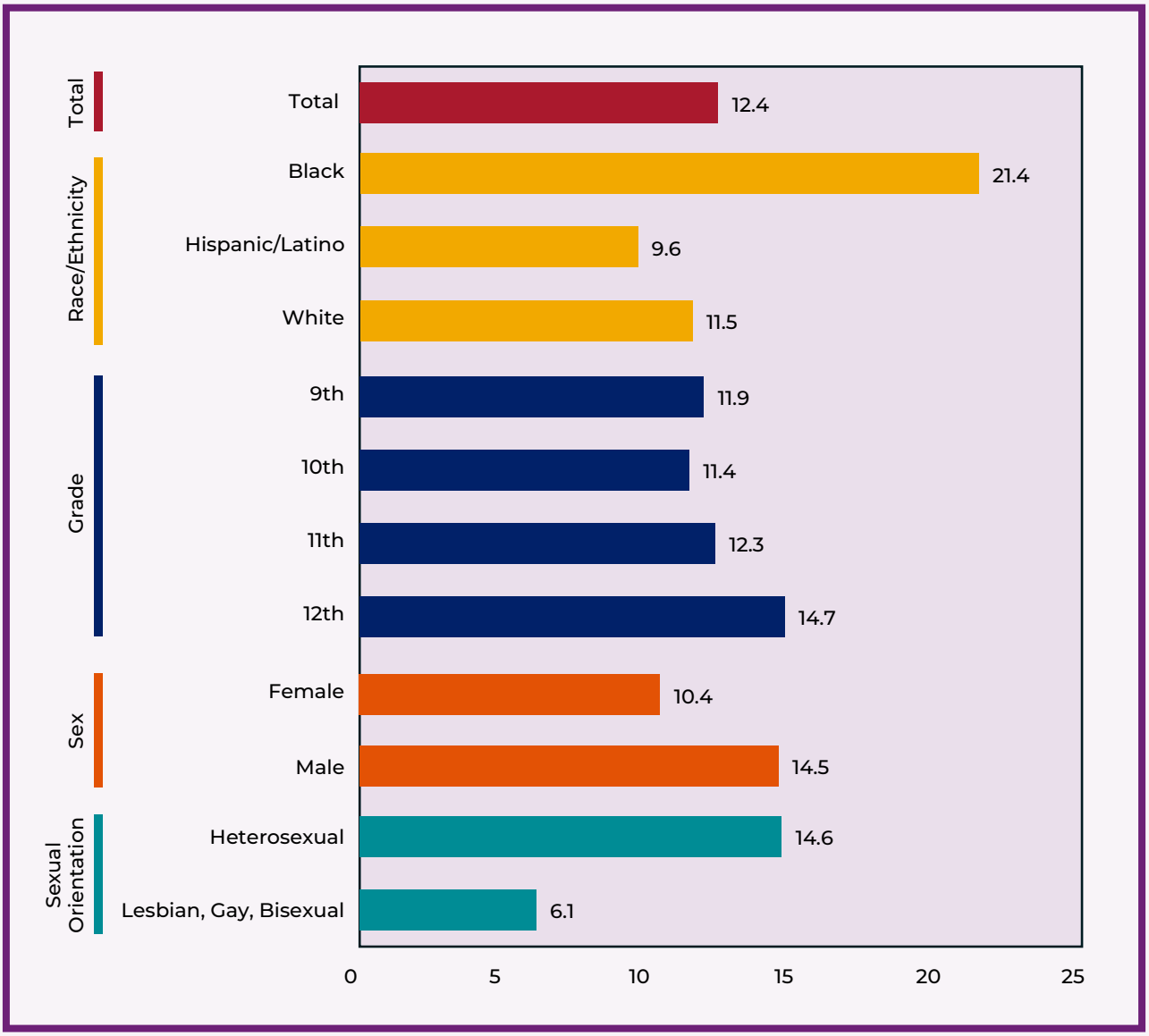
National Comparison

Percentages of Missouri students who had ever had a concussion, got eight hours of sleep or spent three hours on a screen per day were similar when compared to national data (12.4% vs. 11.9%; 22% vs. 22.7%; 73.8% vs. 75.9%). Missouri fared worse in the percentage of students who saw a dentist in the past year (68.6% vs. 73.7%).

Ever Had a Concussion

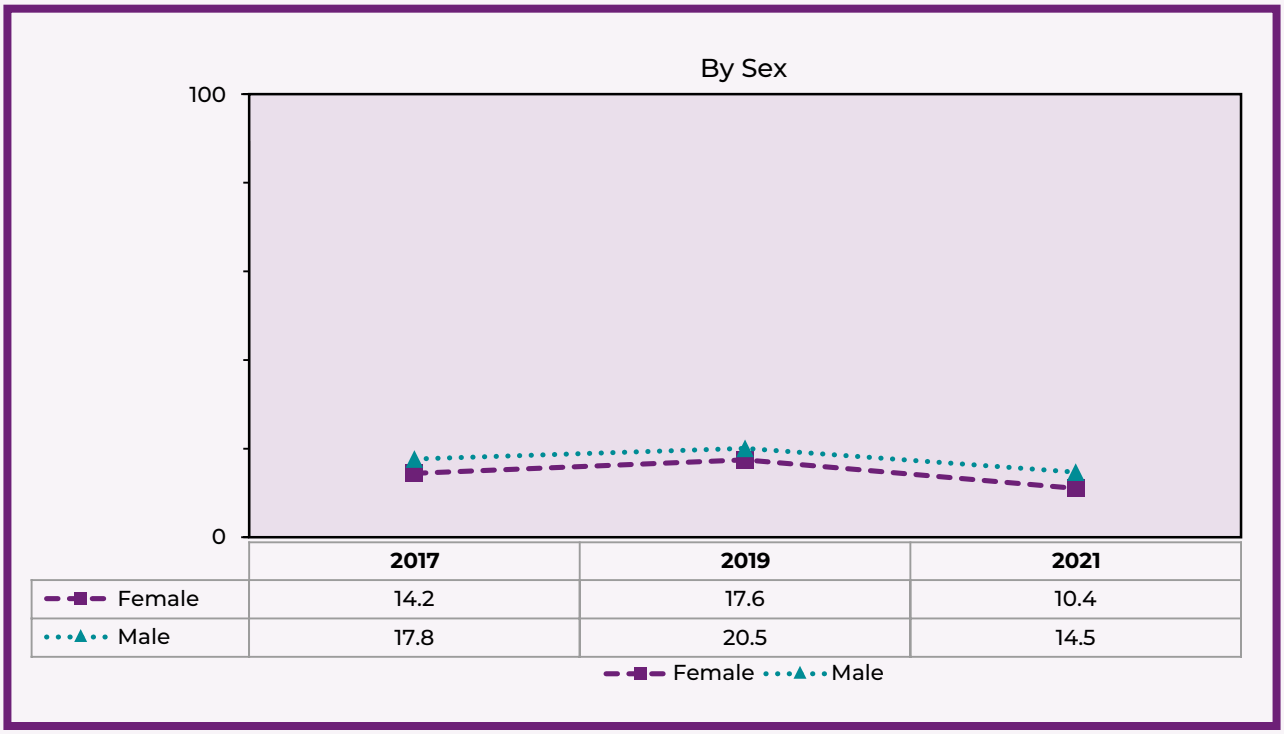
The prevalence for Black students was higher than for Hispanic and white students. Heterosexual students were more likely to have had a concussion in the past year than lesbian, gay or bisexual students.

Percentage of High School Students who **Had a Concussion From Playing a Sport or Being Physically Active** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021

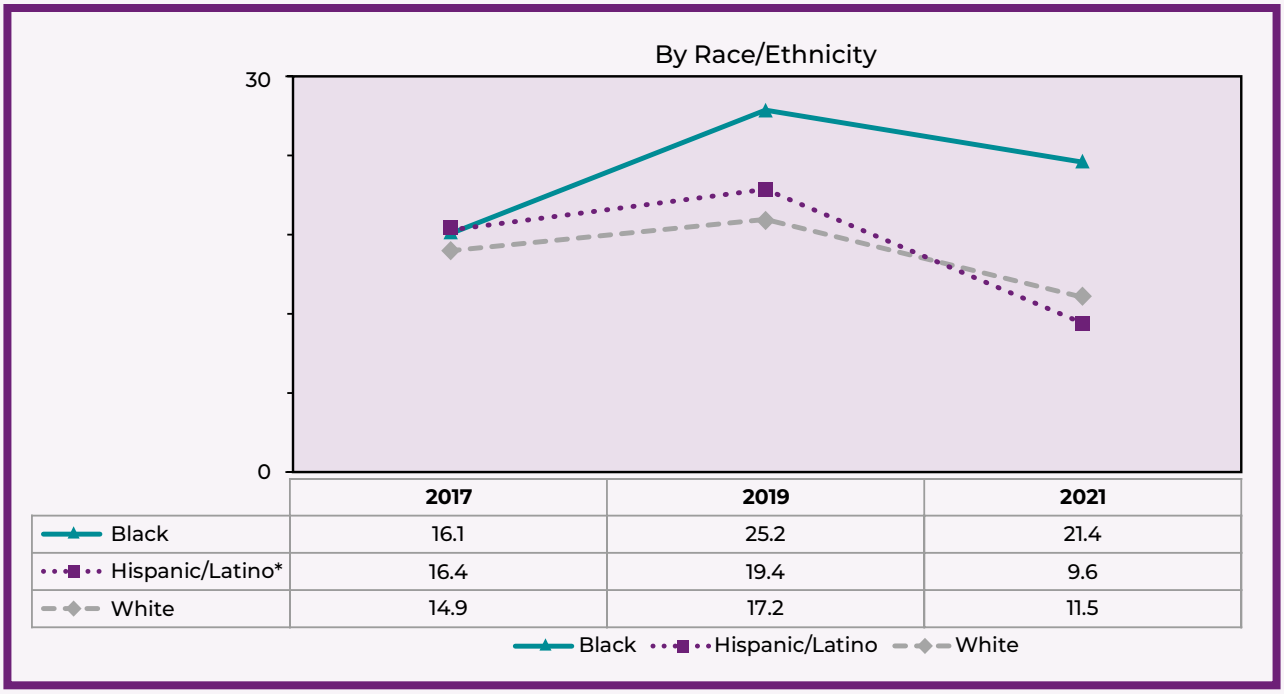


†B > H, B > W; H > LGB (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Had a Concussion From Playing a Sport or Being Physically Active** in the Past Year, Missouri, YRBS, 2017-2021



	2017	2019	2021
Female	14.2	17.6	10.4
Male	17.8	20.5	14.5



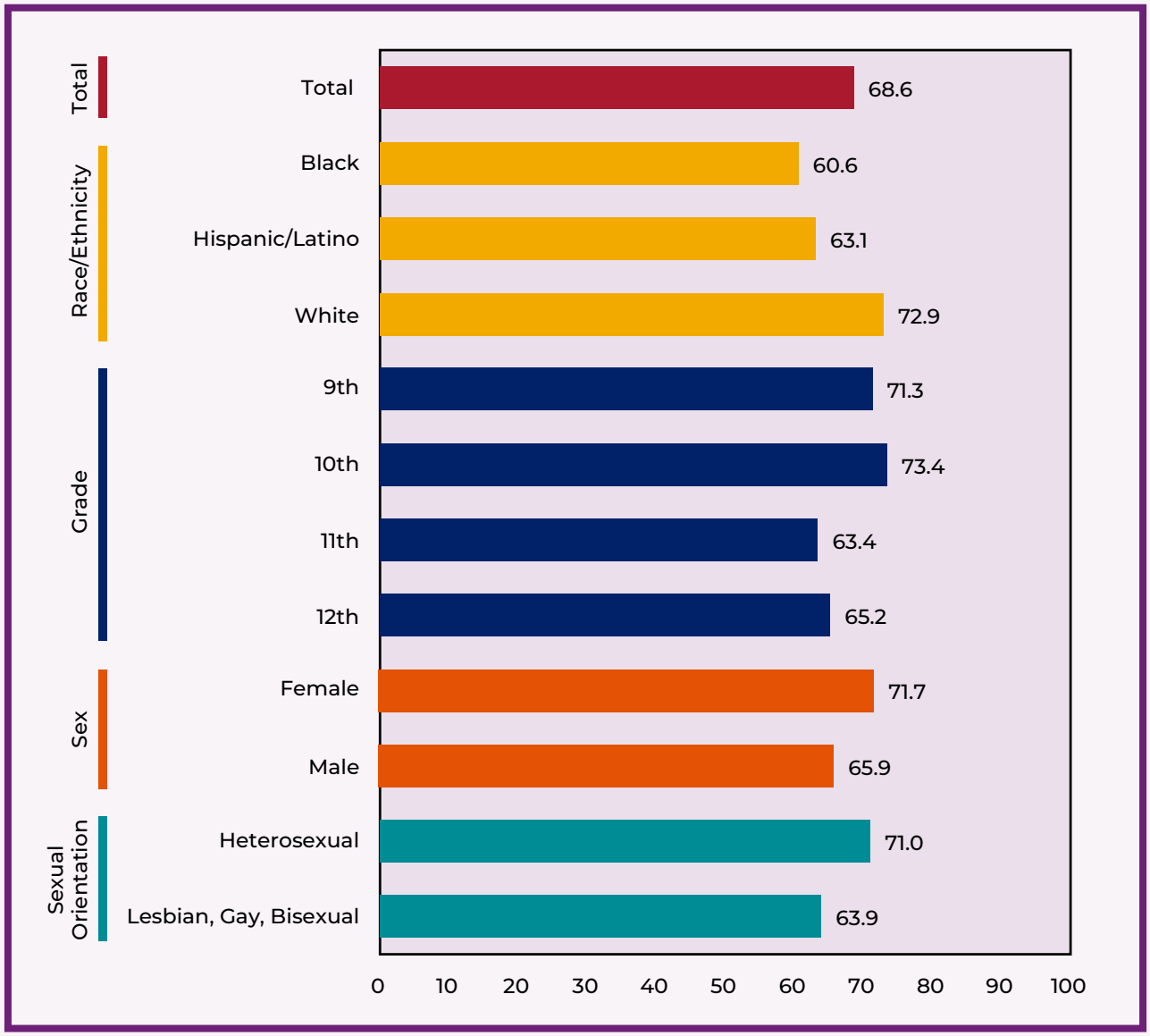
	2017	2019	2021
Black	16.1	25.2	21.4
Hispanic/Latino*	16.4	19.4	9.6
White	14.9	17.2	11.5

*Decreased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Recently Saw a Dentist

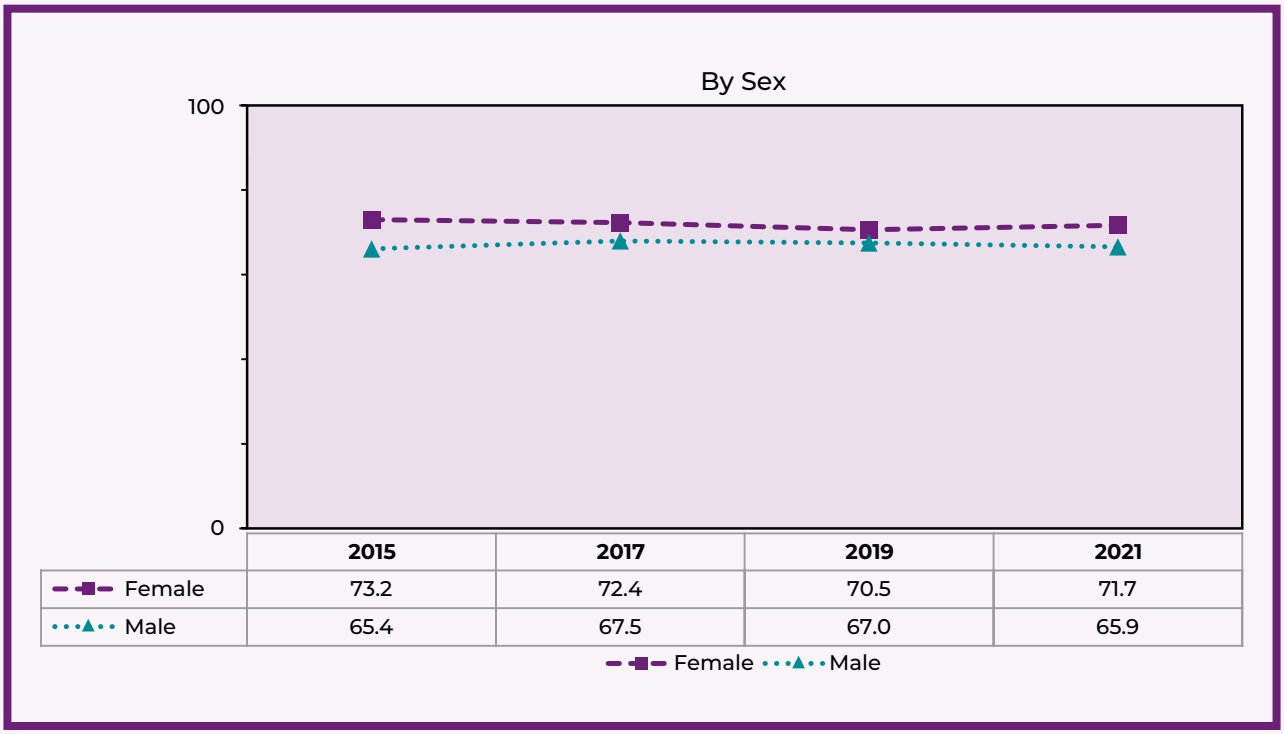
There were no significant differences in seeing a dentist in the past year when comparing sex, grade, race and ethnicity, and sexual identity.

Percentage of High School Students who **Saw a Dentist*** in the Past Year, by Demographic Characteristics, Missouri, YRBS, 2021

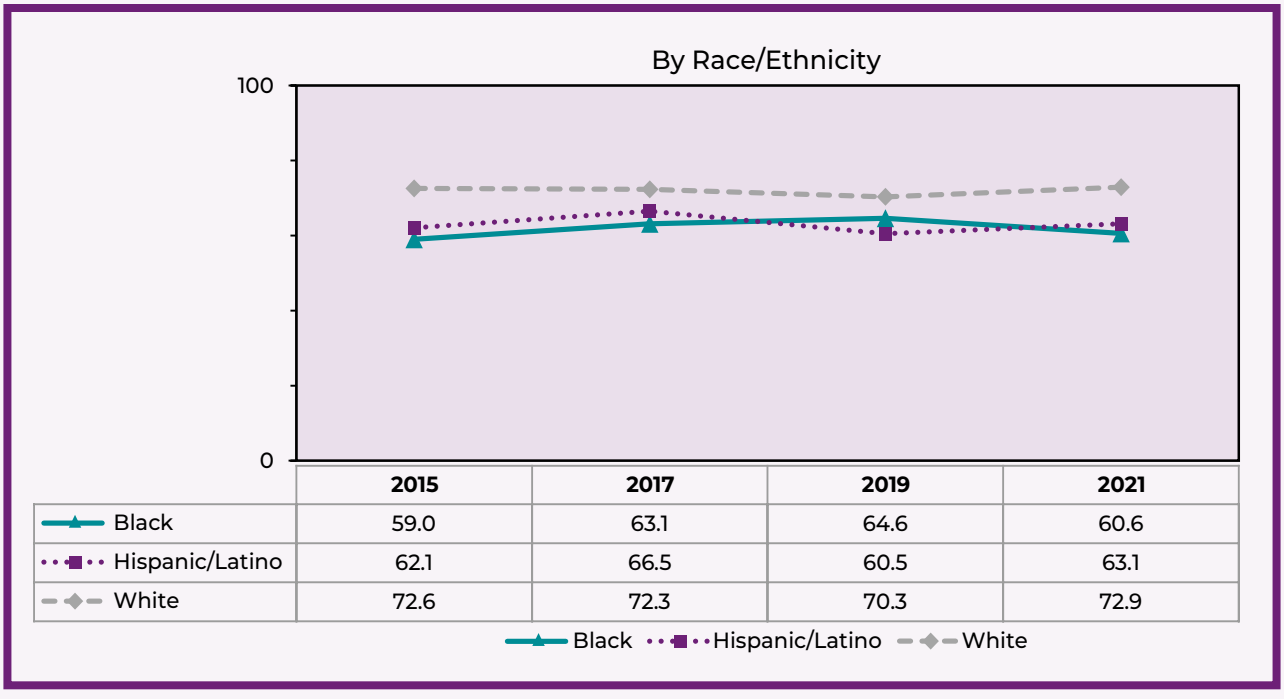


*For a check-up, exam, teeth cleaning or other dental work in the 12 months before the survey.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Saw a Dentist** in the Past Year, Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female	73.2	72.4	70.5	71.7
Male	65.4	67.5	67.0	65.9

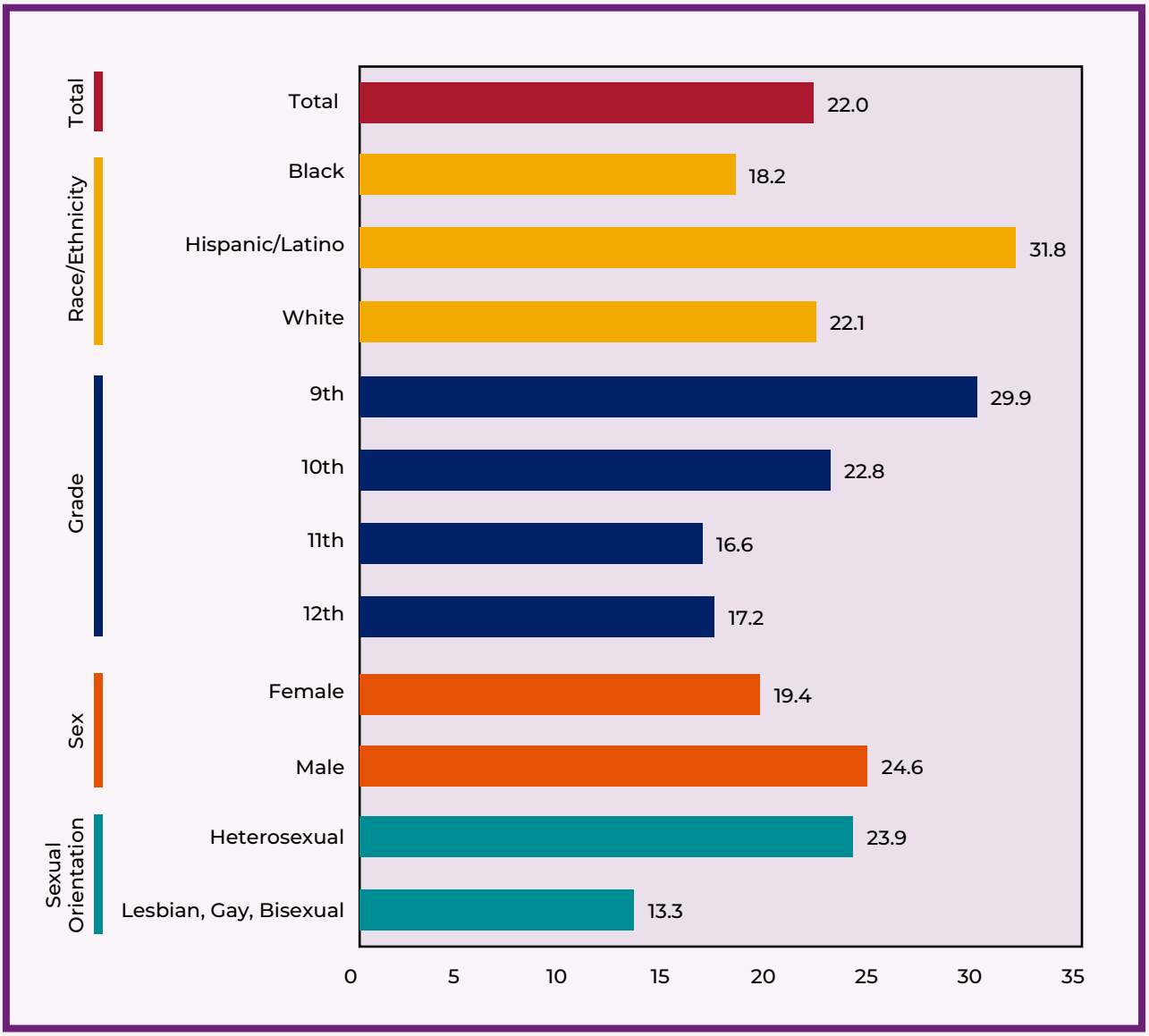


	2015	2017	2019	2021
Black	59.0	63.1	64.6	60.6
Hispanic/Latino	62.1	66.5	60.5	63.1
White	72.6	72.3	70.3	72.9

Got Eight or More Hours of Sleep

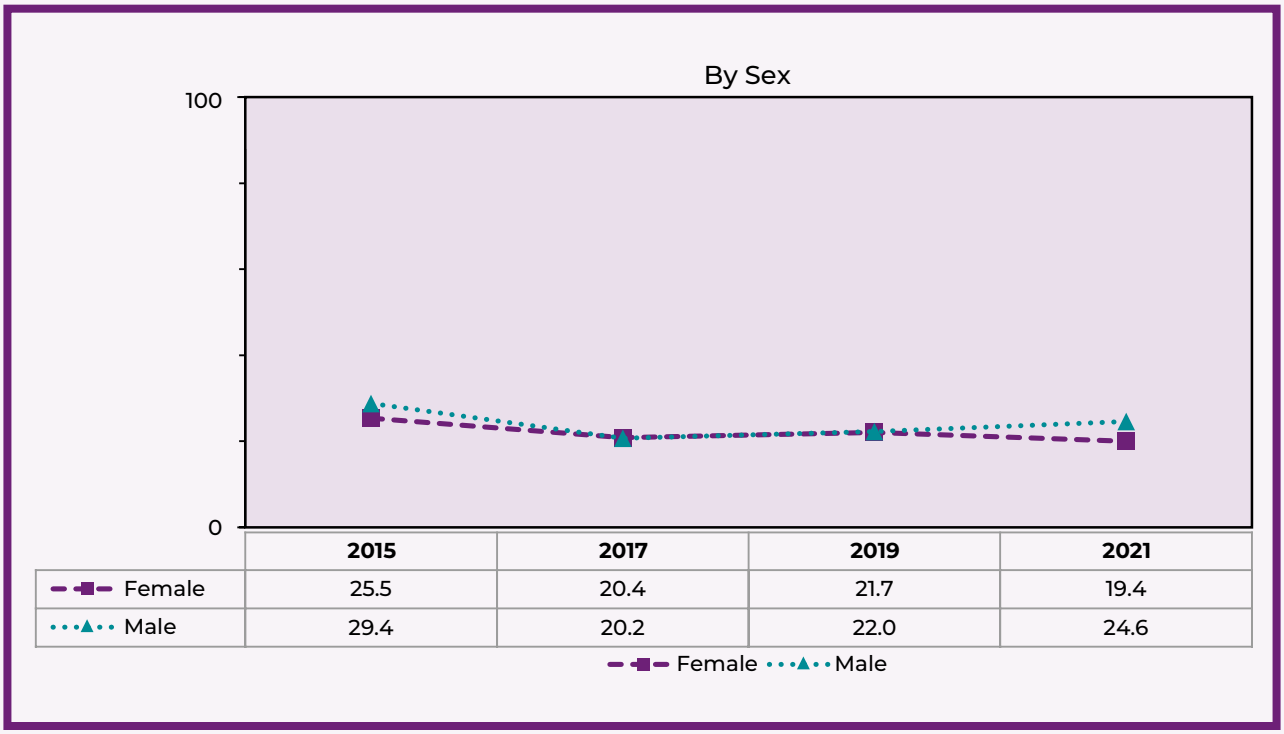
The prevalence for 9th grade students was higher than for 11th grade students. The prevalence for heterosexual students was higher than for students who identified as lesbian, gay or bisexual.

Percentage of High School Students who **Got Eight or More Hours of Sleep,*** by Demographic Characteristics,† Missouri, YRBS, 2021

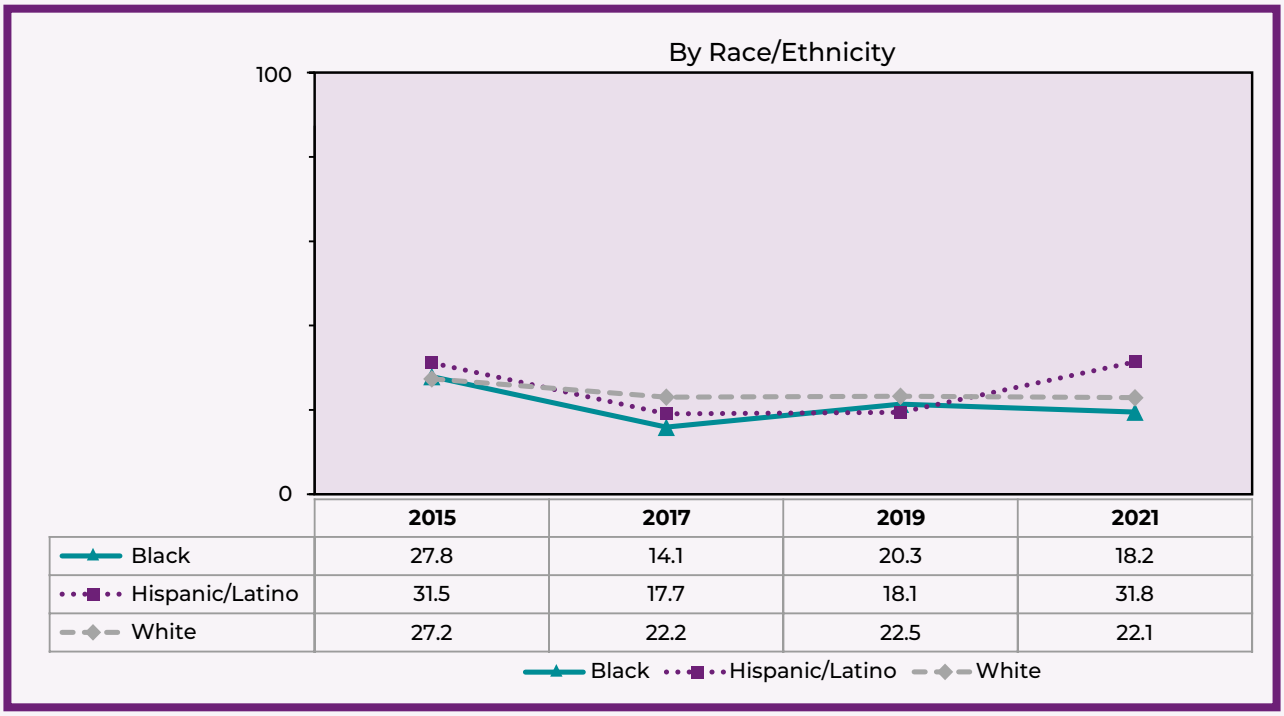


*On an average school night.
†9th > 11th; H > LGB (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Got Eight or More Hours of Sleep,** Missouri, YRBS, 2015-2021



	2015	2017	2019	2021
Female	25.5	20.4	21.7	19.4
Male	29.4	20.2	22.0	24.6

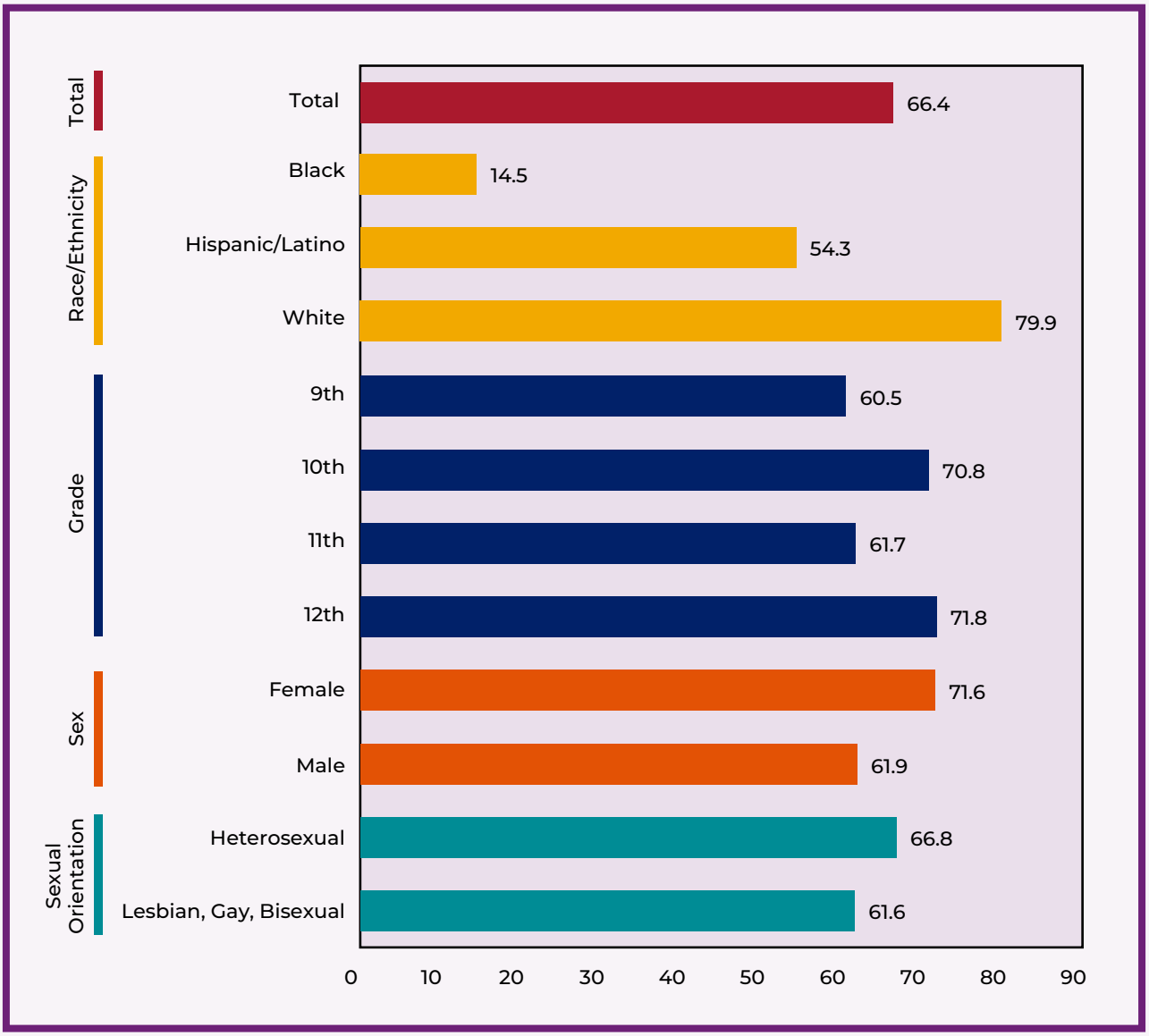


	2015	2017	2019	2021
Black	27.8	14.1	20.3	18.2
Hispanic/Latino	31.5	17.7	18.1	31.8
White	27.2	22.2	22.5	22.1

Had a Sunburn

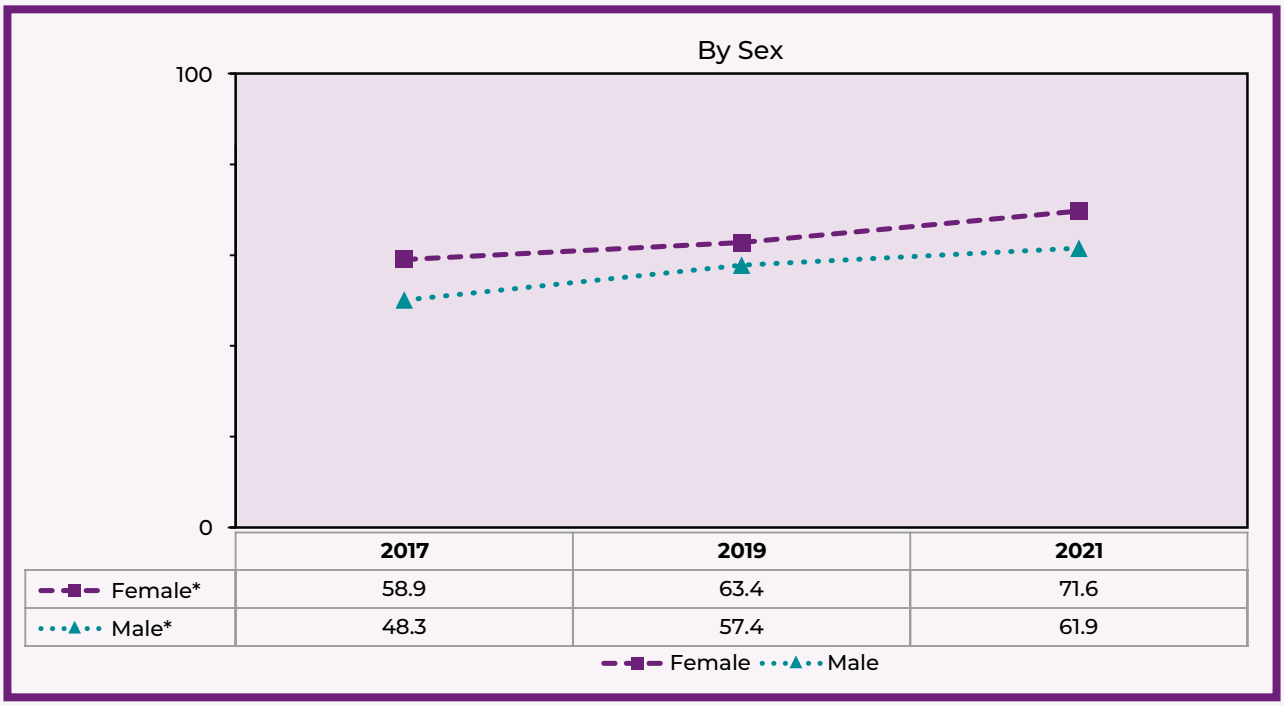
The prevalence for students in 12th grade was higher than for students in 9th grade. Hispanic students had more sunburns in the past year than Black students. White students had a higher prevalence for sunburns than Hispanic and Black students.

Percentage of High School Students who **Had a Sunburn*** in the Past Year, by Demographic Characteristics,† Missouri, YRBS, 2021



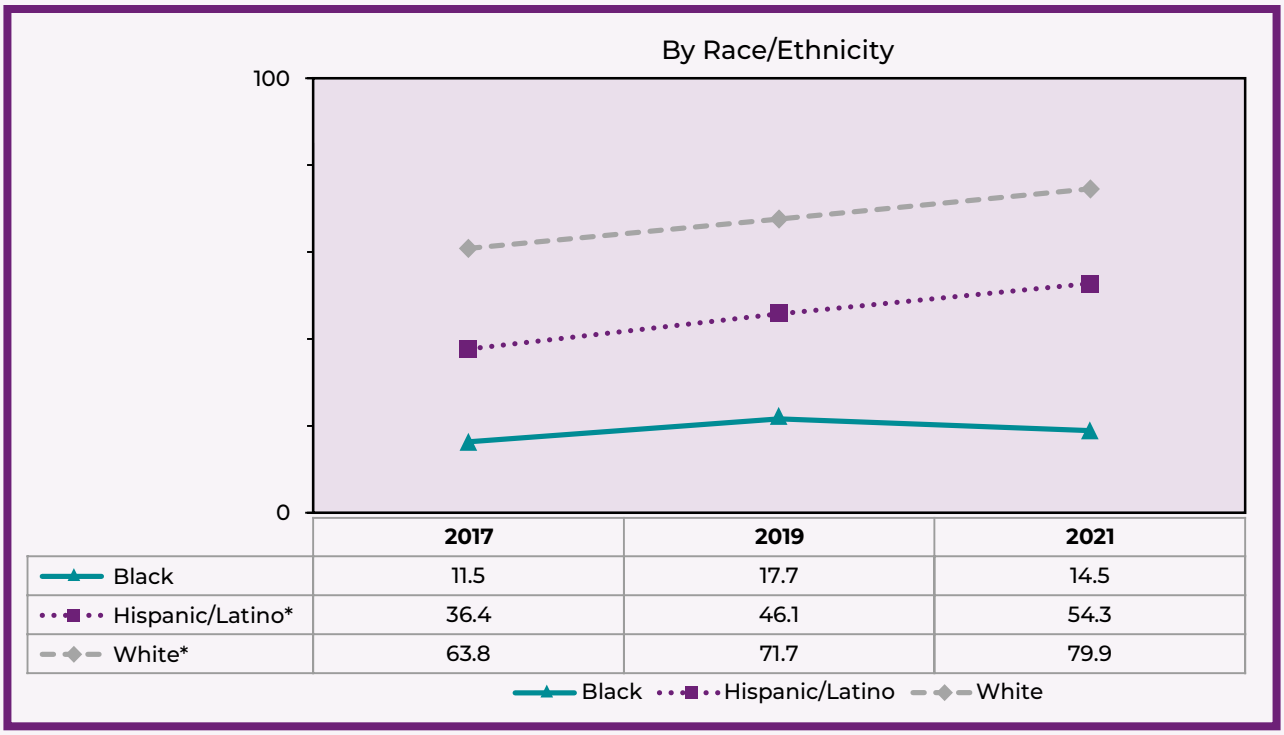
*Counting even a small part of the skin turning red or hurting for 12 or more hours after being outside in the sun, or after using a sunlamp/other indoor tanning device at least once in the 12 months before the survey.
†12th > 9th; H > B, W > B, W > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Had a Sunburn** in the Past Year, Missouri, YRBS, 2017-2021



	2017	2019	2021
Female*	58.9	63.4	71.6
Male*	48.3	57.4	61.9

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.



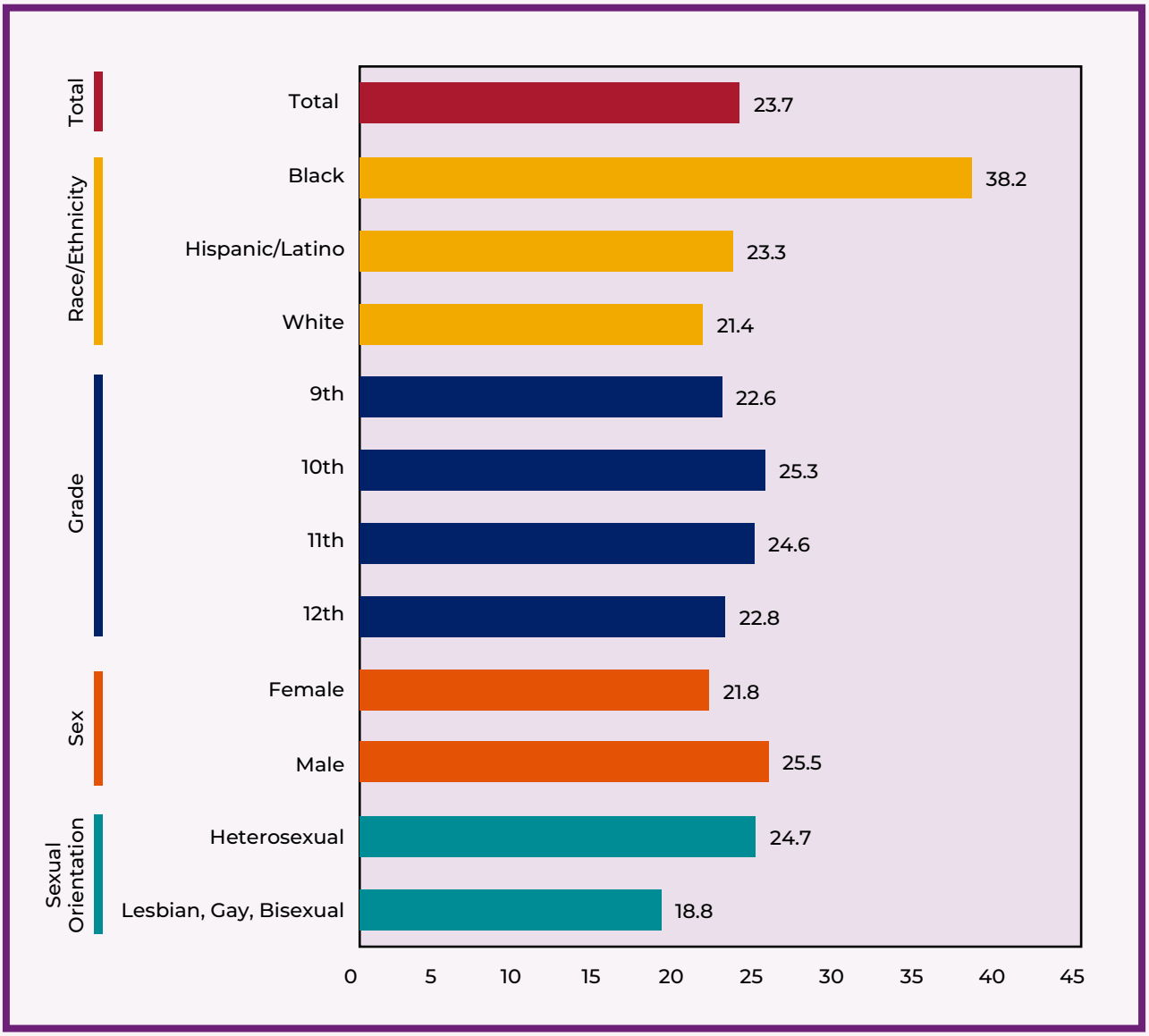
	2017	2019	2021
Black	11.5	17.7	14.5
Hispanic/Latino*	36.4	46.1	54.3
White*	63.8	71.7	79.9

*Increased based on trend analyses using a logistic regression model controlling for sex, race/ethnicity and grade, $p < 0.05$.

Ever Diagnosed with Asthma

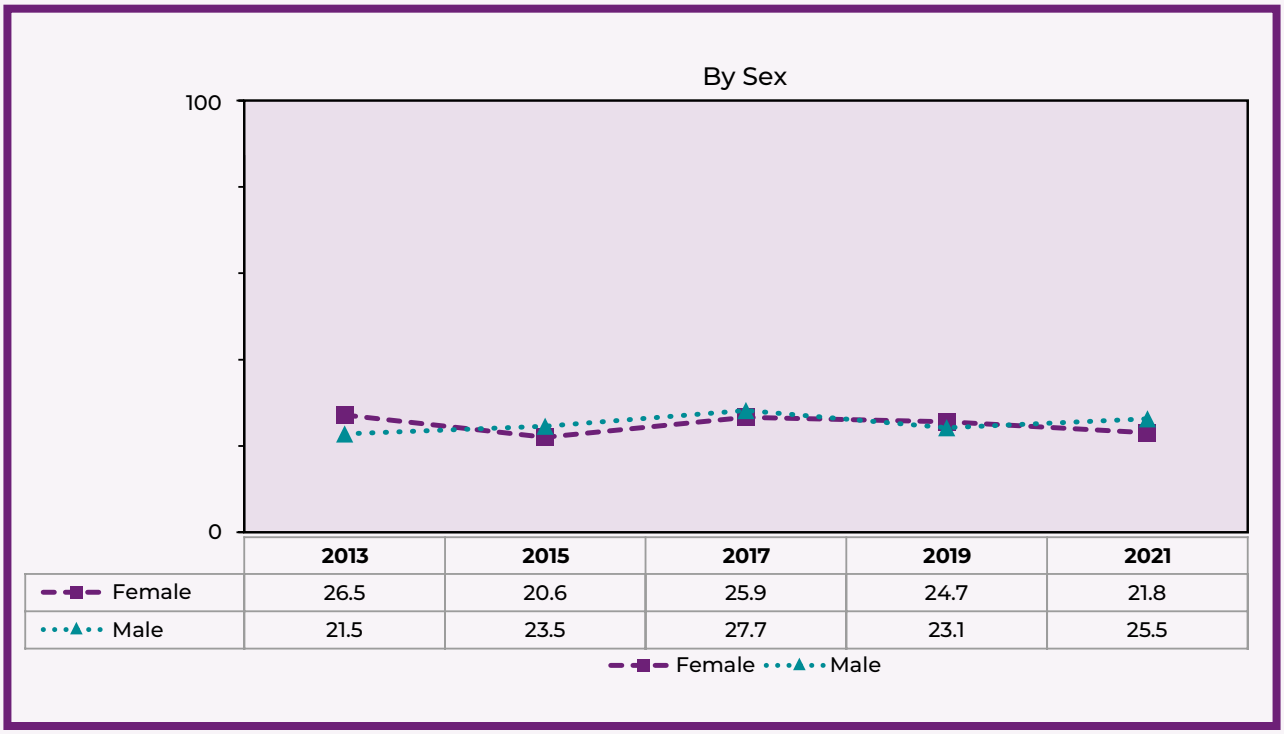
The prevalence for asthma diagnoses was higher for Black students than for white Students.

Percentage of High School Students who **Have Ever Been Told by a Doctor or a Nurse That They Have Asthma,** by Demographic Characteristics,† Missouri, YRBS, 2021

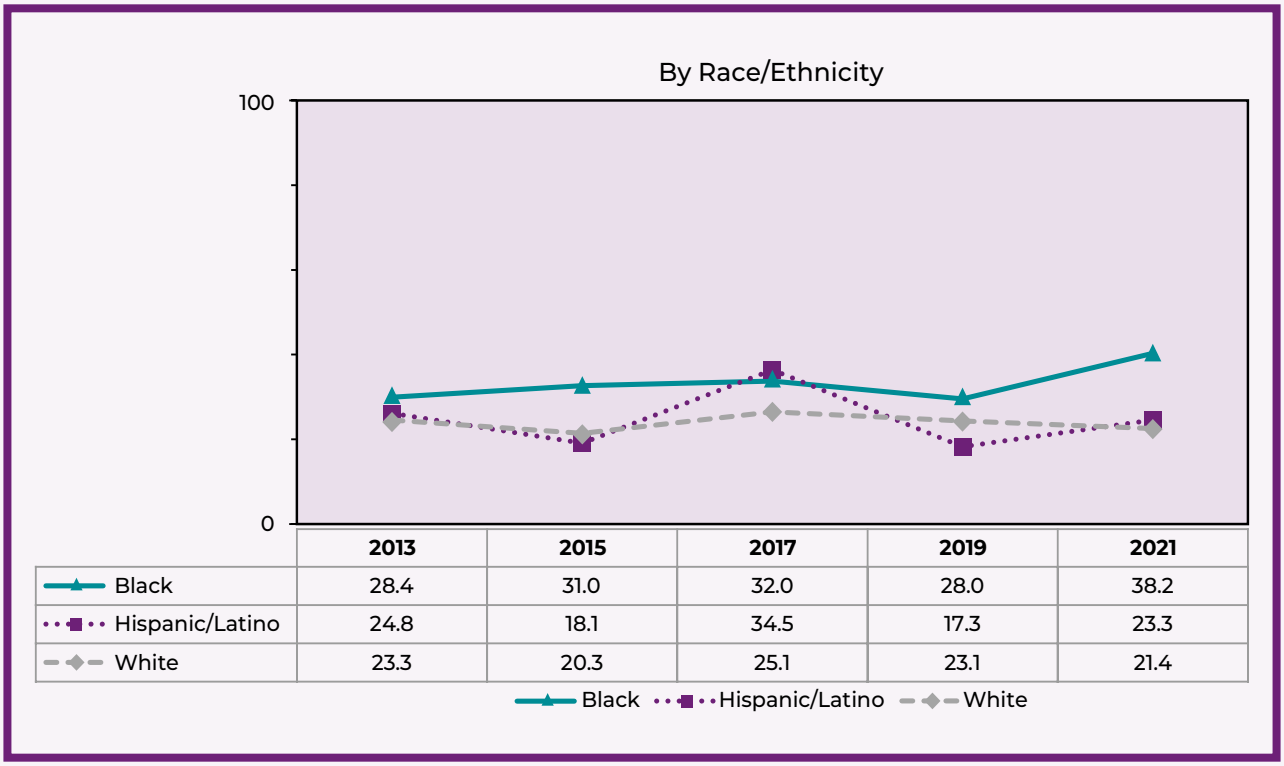


†B > W (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Have Ever Been Told by a Doctor or a Nurse That They Have Asthma,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	26.5	20.6	25.9	24.7	21.8
Male	21.5	23.5	27.7	23.1	25.5

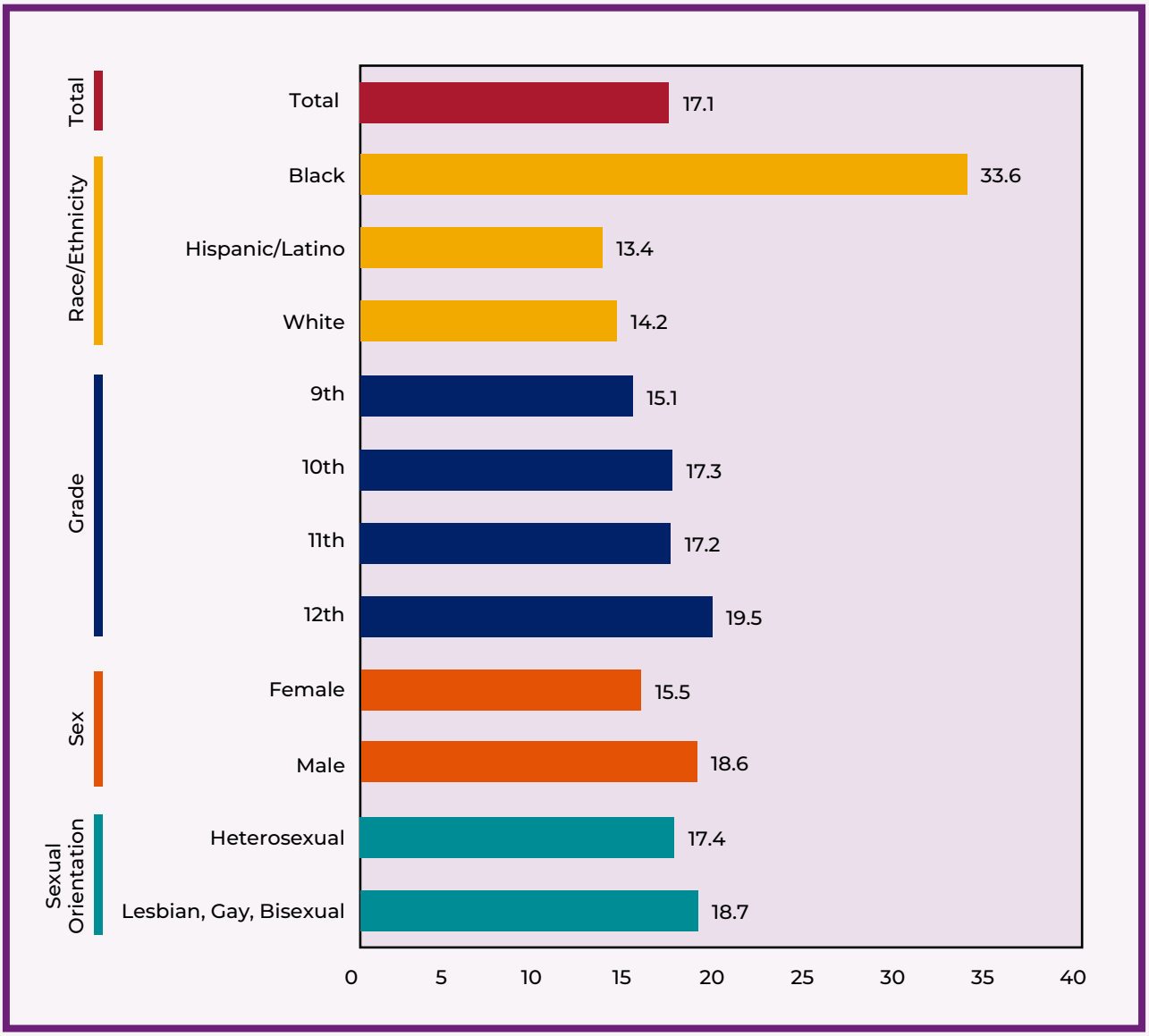


	2013	2015	2017	2019	2021
Black	28.4	31.0	32.0	28.0	38.2
Hispanic/Latino	24.8	18.1	34.5	17.3	23.3
White	23.3	20.3	25.1	23.1	21.4

Currently Have Asthma

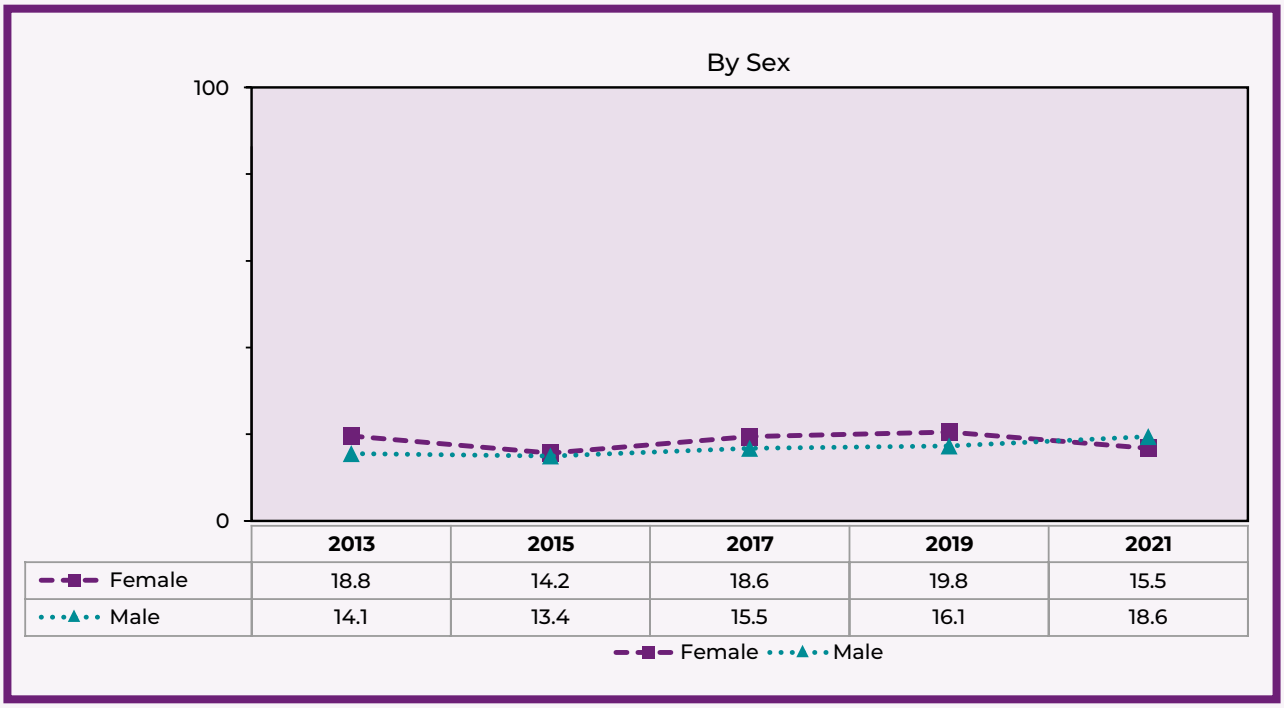
Black students had a higher prevalence for currently having asthma compared to Hispanic and white students.

Percentage of High School Students who **Currently Have Asthma,** by Demographic Characteristics,† Missouri, YRBS, 2021

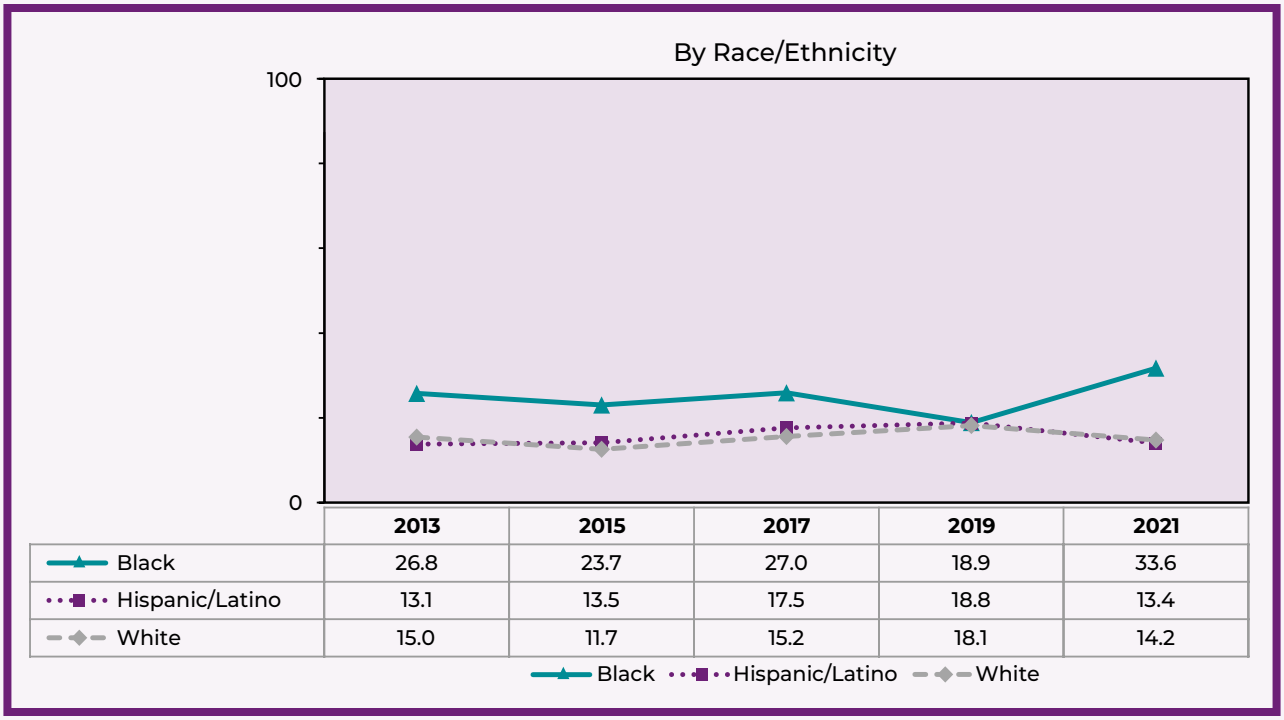


†B > W, B > H (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Trends in Percentage of High School Students who **Currently Have Asthma,** Missouri, YRBS, 2013-2021



	2013	2015	2017	2019	2021
Female	18.8	14.2	18.6	19.8	15.5
Male	14.1	13.4	15.5	16.1	18.6

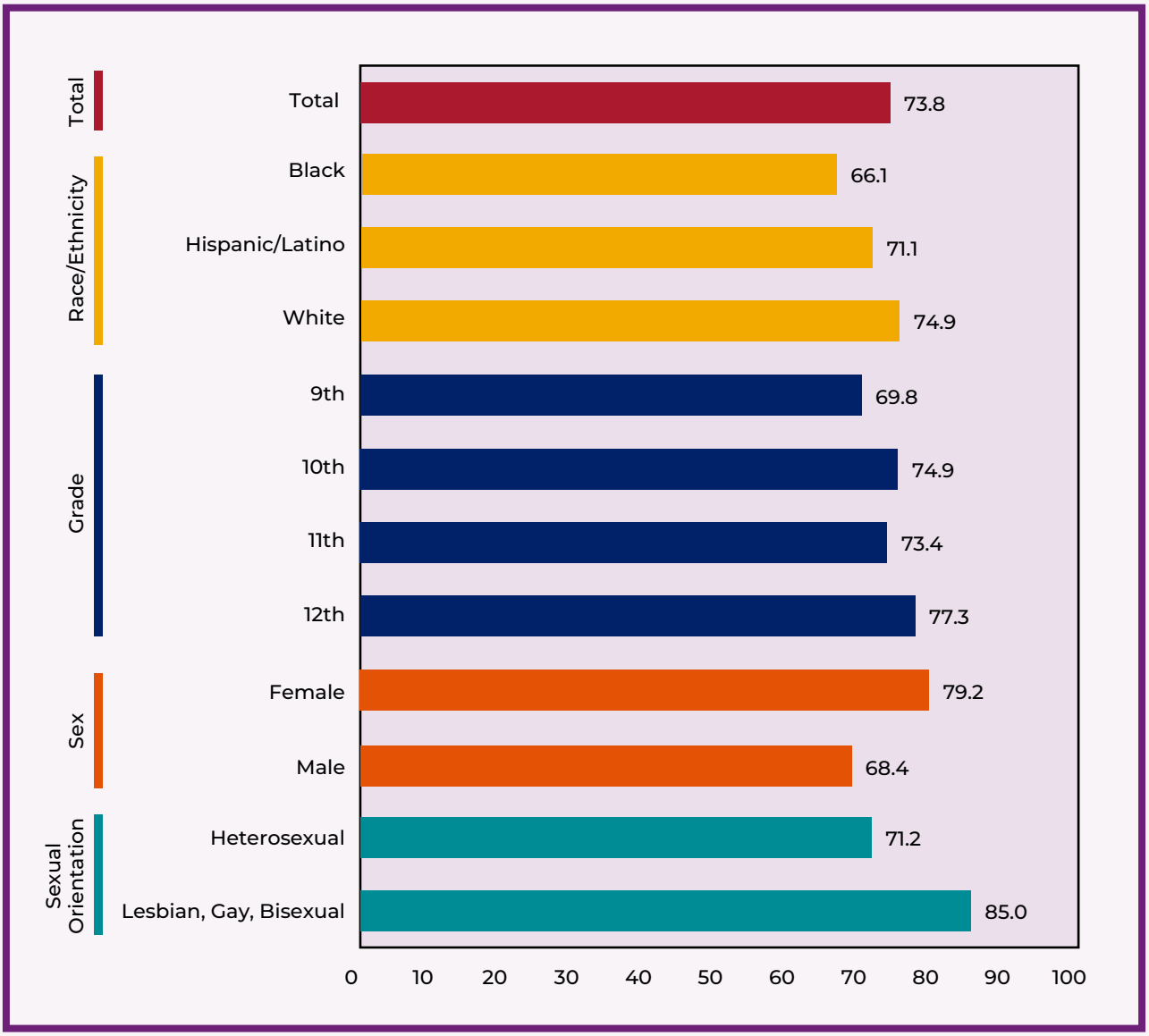


	2013	2015	2017	2019	2021
Black	26.8	23.7	27.0	18.9	33.6
Hispanic/Latino	13.1	13.5	17.5	18.8	13.4
White	15.0	11.7	15.2	18.1	14.2

Screen Time

The prevalence for female students was higher than for male students. The prevalence for students who identified as lesbian, gay or bisexual was higher than for heterosexual students.

Percentage of High School Students who **Spent Three or More Hours Per Day on a Screen*** in the Last Week, by Demographic Characteristics,† Missouri, YRBS, 2021



*In front of any electronic device watching shows or videos, playing games, accessing the Internet or using social media (not counting time spent doing schoolwork on an average school day).
†F > M; LGB > H (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

COVID-19 Experience

AT-A-GLANCE & SUMMARY OF RESULTS: COVID-19 Experience

Collected in fall 2021, these data also represent the first YRBS data collected since the start of the COVID-19 pandemic. The COVID-19 pandemic presented many challenges to students, educators and parents. Children already coping with mental health conditions have been especially vulnerable to the changes, and we are now learning about the broad impacts on students as a result of schools being closed, physical distancing guidelines and isolation, and other unexpected changes to their lives.

In light of the difficulties posed by the COVID-19 pandemic, the 2021 YRBS asked questions related to this topic. The first question asked students whether a parent or other adult in their home lost their job during the COVID-19 pandemic. The second question asked students to report their difficulty with schoolwork during the COVID-19 pandemic compared to before. The third question asked if they went hungry or did not have enough food during the pandemic, however, the results from this question were too small to break down by demographic characteristics, so only the overall percentage for that question is reported below. Lastly, the survey asked if any adult in the home swore at them or insulted them during the pandemic.

Percentage of High School Students who:	2021
Had a parent lose their job	23.9
Felt their schoolwork was more difficult	66.4
Reported a parent insulted them during the pandemic	10.6
Went hungry or did not have enough food in their home	2.8

There were no trend reports available with first year questioning.

The COVID-19 pandemic put a significant strain on high school students throughout Missouri. As time progresses, we will begin to see the long-term effects of the COVID-19 pandemic on Missourians and the broader, nationwide population.

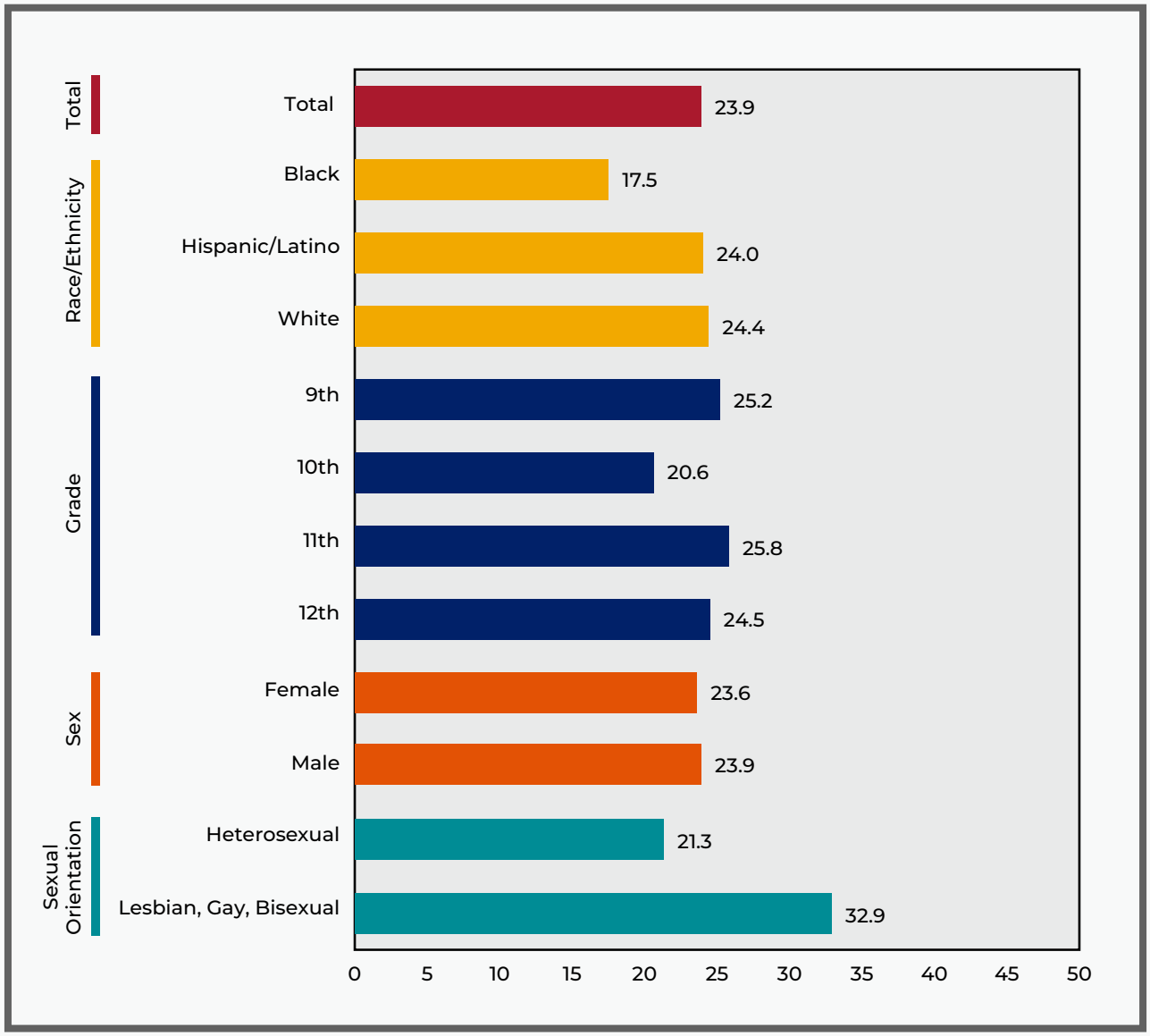
In 2021

23.9% of high school students reported that their parent or another adult in their home lost their job during the COVID-19 pandemic. 55.4% of high school students agreed or strongly agreed that doing their schoolwork was more difficult during the pandemic than before it started. 10.6% of high school students reported that a parent or other adult in their home most of the time or always swore at them, insulted them or put them down during the COVID-19 pandemic. 2.8% of high school students reported they most of the time or always went hungry or that there was not enough food in their home during the COVID-19 pandemic.

Reported Job Loss at Home

The prevalence of a reported job loss at home was higher for lesbian, gay or bisexual students than for heterosexual students. Black students were less likely to report a job loss than white and Hispanic students.

Percentage of High School Students who Reported That **Their Parent or Another Adult in Their Home Lost Their Job During the COVID-19 Pandemic,** by Demographic Characteristics,† Missouri, YRBS, 2021

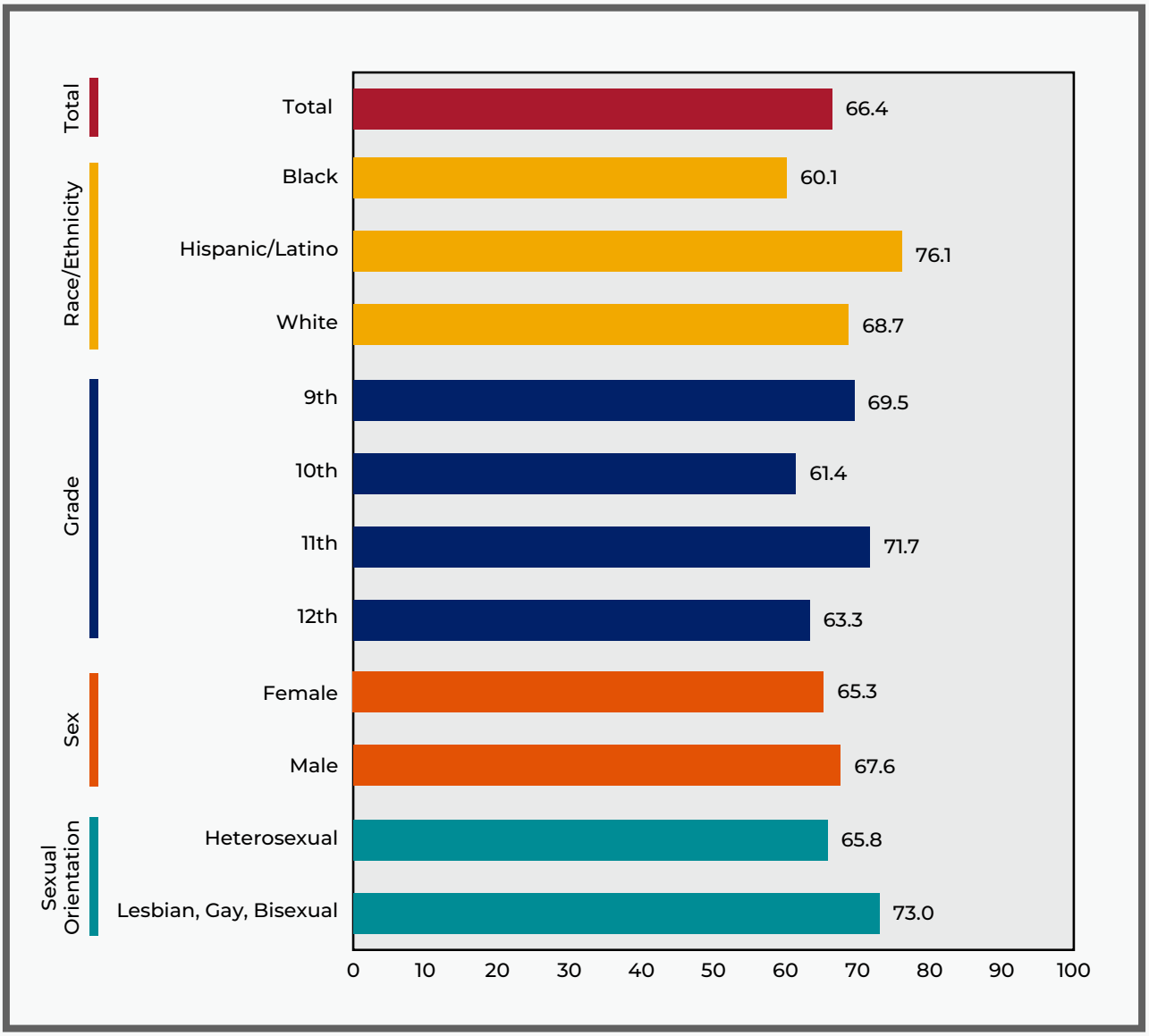


†H > B, W > B; LGB > H (based on t-test analysis, p < 0.05).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Difficulty of Schoolwork

The prevalence for 9th grade students was higher than for 10th grade students. The prevalence for 11th grade students was higher than for 10th grade students. The prevalence for Hispanic students was higher than for Black students.

Percentage of High School Students who **Strongly Agreed or Agreed That Doing Homework Was More Difficult During the COVID-19 Pandemic,** by Demographic Characteristics,† Missouri, YRBS, 2021

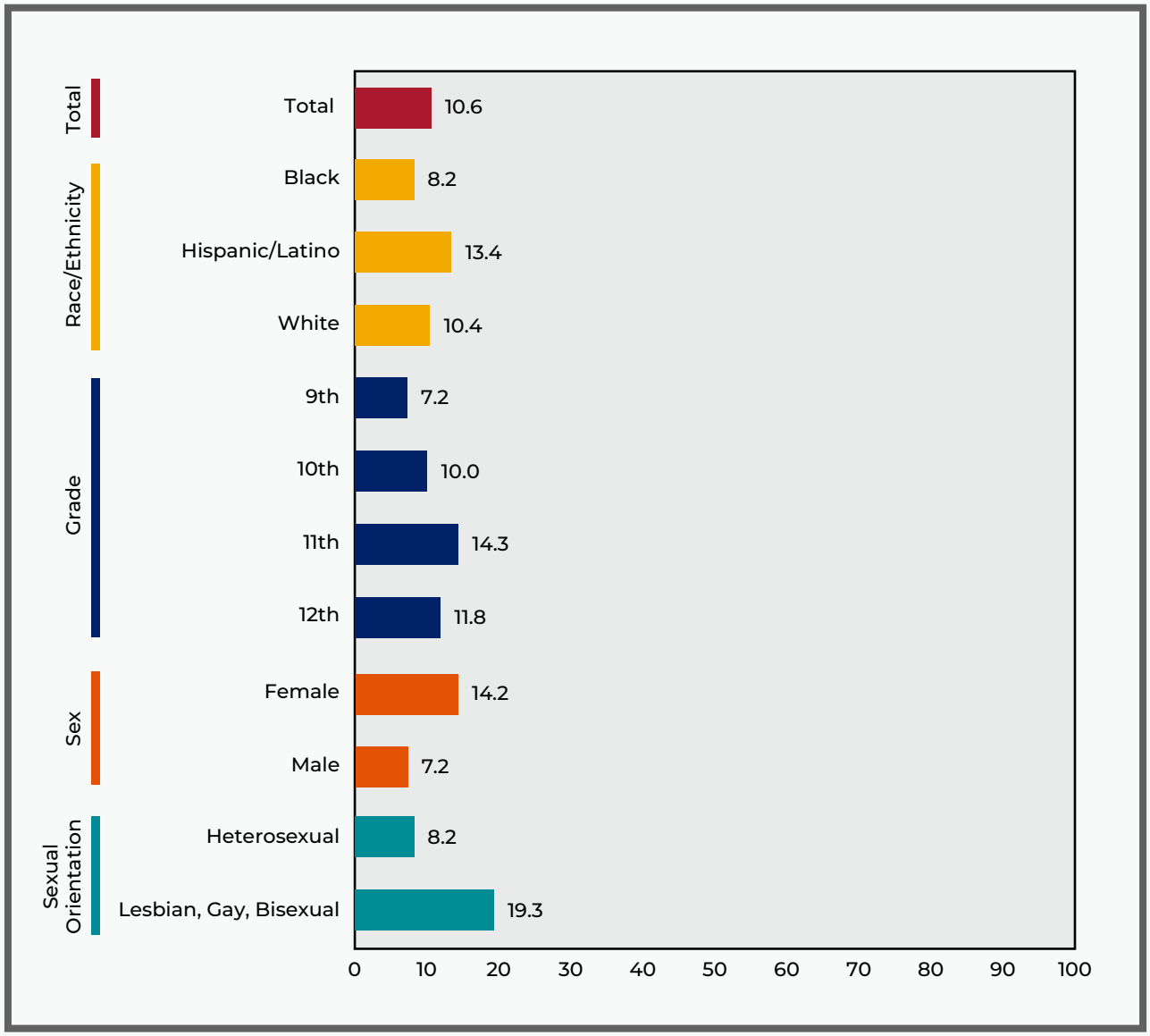


†9th > 10th, 11th > 10th; H > B (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Parent or Adult Insult

The prevalence for female students was higher than for male students. The prevalence for students in 11th grade was higher than for students in 9th grade.

Percentage of High School Students who **Reported That a Parent or Other Adult in Their Home Most of the Time or Always Swore at Them, Insulted Them or Put Them Down During the COVID-19 Pandemic,** by Demographic Characteristics,† Missouri, YRBS, 2021



†F > M; 11th > 9th (based on t-test analysis, $p < 0.05$).
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

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